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RECENT HISTORY OF DIGHTON ROCK

BY

EDMUND BURKE DELABARRE

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Engraved for The Cole

of Dighton Rock, 1907

Society of Massachusetts

RECENT HISTORY OF DIGHTON ROCK

BY

EDMUND BURKE DELABARRE

REPRINTED FROM

THE PUBLICATIONS

OF

The Colonial Society of Massachusetts

VOL. XX

CAMBRIDGE

JOHN WILSON AND SON

The University Press

1919

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Since the publication of the earlier papers of this series,[1] two minor facts have come to the writer's attention that may now be added for completeness. Early in the nineteenth century, references to Dighton Rock began to appear in gazetteers. Worcester's Geographical Dictionary of 1817 and Morse's New Universal Gazetteer in its third edition of 1821 are examples. Both of them assert that no satisfactory explanation of the inscription has yet been given. The second fact demands fuller discussion. According to a writer in the Taunton Whig, in its issue of January 23, 1839, "in 1798, M. Adel, a young and learned Frenchman hunted it out, and as it was during the existence of the Gallo-phobia, his visit created a great excitement in the neighborhood. The late Dr. Baylies fell under considerable odium for harboring a Frenchman." Judging from the contents of the other portions of the article, it seems likely that its author may have been Joseph W. Moulton, joint author with Yates of a History of the State of New York in 1824. It is probable that both the name and the date as he gives them are slightly erroneous, and that he should have informed us that the visit was made by Citizen Adet in 1796.

Pierre Auguste Adet was French Minister to the United States from 1795 to 1797.[2] He arrived in Newport, Rhode Island, from France on June 2, 1795.[3] Inasmuch as he was in Philadelphia by June 13,[4] it is not probable that his visit to Dighton occurred at that time. His letters from Philadelphia are almost continuous from that date until June 21 of the following year,[5] after which his movements can be traced only fragmentarily. During a portion of the summer, at least, he was "travelling in several States of the Union."[6] On August 6, 1796, he was mistakenly reported as being in Boston, but

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[1] Early History of Dighton Rock, and Middle Period of Dighton Rock History, in our Publications, xviii. 235–299, 417, xix. 46–149. In the present paper, references to sources are generally omitted whenever these are indicated in the Bibliography, pp. 438–462, below.

[2] Described in the Nouvelle Biographie Générale as a chemist and "homme politique," born in 1763, died about 1832.

[3] Newport Mercury, June 2, 1795, p. 3/1; June 9, p. 3/2.

[4] Annual Report of the American Historical Association for 1903, ii. 734.

[5] ii. 721–1009.

[6] ii. 943.

his expected visit was prevented by sickness.[1] By September 5, he had been in Albany and had proceeded thence to Lake George.[2] On September 13 he arrived in Boston from the southward.[3] He remained there for some time, being received by Governor Adams on the 14th, waited on by the selectmen on the 22nd, and given a public dinner on the 23rd.[4] On October 3 he was again in Philadelphia,[5] whence he sailed for France on May 6, 1797.[6] His visit to Dighton, if it occurred, was probably in September of 1796. He certainly had no later opportunity. That the Gallo-phobia mentioned by our informant had not at that time attained its extreme intensity is evidenced by the public courtesies extended to him in Albany and in Boston, and by his own impressions as expressed in a letter written by him from Boston on September 24. He remarks that although the merchants are ruled by fear of England, yet "as to the people, they appear to me to be entirely devoted to us. On my journey I have received from them many courtesies and marks of affection every time that I have been recognized. I dare believe that if it were necessary they would exert all their efforts to demonstrate in a more positive manner their attachment to the [French] republic and their desire to please it."[7]

With these additions, it has been possible for us, in surveying the earlier incidents connected with this persistent inciter to battles of opinion, to assemble in chronological order every incident, argument, and description that is now discoverable. With the vastly increased literature of the subject that now confronts us, such minuteness of detail is manifestly impossible, and the exact chronological order can no longer be profitably followed. Ever since Professor Rafn addressed

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[1] Newport Mercury, August 9, 1796, p. 3/1; Columbian Centinel, August 6, p. 3/1, August 13, p. 2/4.

[2] Newport Mercury, September 13, p. 3/3; Boston Mercury, September 13, p. 2/4. Cf. 1 Proceedings Massachusetts Historical Society, vii. 337.

[3] Columbian Centinel, September 14, p. 2/4; Independent Chronicle, September 15, p. 2/5; Boston Gazette, September 19, p. 3/2.

[4] Independent Chronicle, September 15, p. 2/5, September 29, p. 3/1; Boston Mercury, September 30, p. 2/4; Boston Gazette, October 23, p. 3/2; Columbian Centinel, September 24, p. 3/3.

[5] Boston Mercury, October 14, p. 2/3.

[6] Annual Report of American Historical Association for 1903, ii. 1017, letters of May 5, 16.

[7] ii. 947.

his circular letter to the scholars of America in 1829, asking for evidences of the reputed visits of ancient Northmen to our shores, discussions of Dighton Rock have been exceedingly numerous. No single year has passed without some new printed mention of the rock, and in some years there have been many of them. Those known to the present writer within this period of ninety years now approach a total of four hundred. Their number and continuity are a clear indication of the importance attached to this monument and the deep interest that is still widely felt in its mystery. It has been its misfortune both to have been given much unmerited prominence through use of it as an alleged proof of important historical events, and likewise to have been subject to much unmerited ridicule and disrepute through realization of the follies of argument that it has incited. While endeavoring to avoid these exaggerations and to make our examination as calm and dispassionate as is the unmoved rock itself, yet it has been our constant endeavor also to accompany the search for historic truth with a realization of its human and psychological features, and with an appreciation of the entire movement with its changing incident and its varied actors, personifiers of recurring and struggling ideas, as a drama with consistent plot and strong poetic appeal. It is in this spirit, with mingled historic, psychological, scientific, and æsthetic interests, that we continue our research. Most of the material can best be handled topic by topic, instead of year by year, as heretofore; and our first task will naturally be to follow the fortunes of the Norse hypothesis from its inception down through the entire controversy that centered around it.

Rhode Island Historical Society's Drawings, 1834

In view of the deductions which were drawn from it, apart from all question as to its reliability, no more important reproduction of the lines on Dighton Rock has ever been made than that known as the "Rhode Island Historical Society's Drawing." At the same time none has been subject to more of misunderstanding and misrepresentation. One current error of importance concerning it, originating in a misstatement by Rafn, is that it was made in the year 1830; and a second, that the drawing which has been frequently published under that name correctly represents what the Society's committee saw and drew. As a matter of fact, the drawing was not in existence

until four years later than the date always assigned to it; and as a matter of fact, the genuine unaltered drawing has never heretofore been reproduced.

The circumstances that led to the production of this and a companion drawing are discoverable mainly from the unpublished records of the Rhode Island Historical Society.[1] The fact that Charles Christian Rafn[2] was undertaking an ambitious reproduction and translation of all the Icelandic manuscripts that bear upon the Norse discovery of America, and wished to learn whether any remains of the Norsemen were discoverable anywhere on the American coast, was responsible for this new attempt to depict the characters on the rock. Rafn himself describes the earliest beginnings of the event:

When, in the course of the year 1829, after several years of preparation, we decided upon the approaching publication of this work, we felt that there were lacking various illustrations for it, to be sought in America itself. Accordingly we sought them from various learned societies of the United States of North America which presumably might provide and communicate them most readily and adequately.[3]

In pursuance of this purpose Rafn addressed a letter on June 15, 1829, to the Rhode Island Historical Society.[4] Among other things, including mention of the runic inscription found in 1829 at latitude 73° on the west coast of Greenland, he said:

It is known, that the inhabitants in the North of Europe have long before Columbus's time visited the countries on the coasts of North

[1] These will be referred to hereafter as C, meaning the manuscript volumes entitled Correspondence and Reports; R, meaning the volumes entitled Records; and T, the Trustee's Records. References to T and R are by dates, not by numbered pages.

[2] Born January 16, 1795; died October 20, 1864. At his suggestion, the Royal Society of Northern Antiquaries was founded in Denmark about 1825. Rafn was its perpetual secretary, editor of most, if not all, of its publications, practically sole author of many of them. The society was under the patronage and titular presidency of Frederick VII, King of Denmark. See 1 Proceedings Massachusetts Historical Society, 1866, viii. 80–84, 175–201; and no. 67.

[3] No. 16, p. 355. The original is in Latin. The reference here, as in all footnotes similarly expressed, is to the corresponding number in the Bibliography, pp. 438–462, below.

[4] Now preserved in C i. 79. Some writers, including Bartlett, have asserted that the activity of the society in this matter was in response to a circular letter from Rafn to the American newspapers; but this is clearly an error.

America. The greatest part of the informations concerning the same have not hitherto been published.

At a time, when the researches about the former times of America have gain'd a greater interest, durst then the undertaking of bringing for the light these informations expect the approbation of the American Antiquaries.

I have now gone through all the old manuscripts belonging to the same, and made a complete collection of the several pieces, which illustrate the knowledge, that the old Scandinavians had of America.

The collection has been made with all the accuracy which has been possible for me, and I intend now to publish this collection complete with a Latin translation. . . .

I have had the pleasure, that this my undertaking has met with a kind reception of several American learned men. I must therefore no longer consider about deferring of printing the work, which will at least take half a year.

It would rejoice me very much, If I, before the work is ready from the press, might likewise hear the thoughts of your honoured Soc^{y} about this my undertaking.

It was in consequence of the receipt of this letter that the society thus addressed sent to Rafn a number of drawings of inscribed rocks, considerable accompanying information, and two new drawings produced under its own direction. These contributions were ultimately responsible more than anything else for the now little credited belief that the Vinland and Hop of the Northmen were on the shores of Narragansett Bay. The detailed course of the events may be followed from the records of the society.

On December 19, 1829, the letter from Rafn was read to the trustees of the society, and they appointed William E. Richmond and W. R. Staples a committee to answer it (T). These men employed Dr. Thomas H. Webb, secretary of the society, to "draw up a memoir of the Writing Rocks in this vicinity, with a view to transmit the same or some parts of it to Chevalier Rafn" (R, July 19, 1830). On January 23, 1830, the trustees voted the sum of $18.62 for expenses in examining Dighton Rock, with promise of more if needed (T). In February the committee visited Dighton Rock.[1] It is practically certain that on this first visit no drawing of the rock was made. At any rate, the drawings subsequently made use of by Rafn were not

[1] No. 16, p. 357.

produced until more than four years later. However, other drawings were assembled at about this time and shortly forwarded to Rafn; and it is this fact, doubtless, that led to the later error, originating in a confusion of dates due to Rafn himself, of attributing the Rhode Island Historical Society's drawings to the year 1830.

On September 10, 1830, the committee reported to the trustees of the society a draft of a reply to Rafn's letter; and the trustees "resolved that the secretary cause said answer and the accompanying drawings to be copied and transmitted" (T). This was done under date of September 22 (C i. 91; R, July 19, 1831); and the letter was afterward published in full by Rafn in the Antiquitates Americanæ.[1] Following is a much condensed abstract of this letter:

In the Western parts of our Country[2] are numerous mounds, remains of fortifications, and articles of pottery, which could not have been produced by any of the Indian tribes; also many rocks, inscribed with unknown characters. The Indians were ignorant of the existence of these rocks. A rock, similar to these, lies in our vicinity. It is known as the Dighton Writing Rock. Its material is bluish gray fine grained grey wacke. Details of its situation and measurements are given. Its face is covered with unknown hieroglyphics. No one, who examines attentively the workmanship, will believe it to have been done by the Indians. . . . Various drawings have been made of this inscription, the first by Cotton Mather in 1712, others by James Winthrop in 1788, by Dr. Baylies and Mr. Goodwin in 1790,[3] by E. A. Kendall in 1807, and one recently by Job Gardner. Copies are enclosed of the drawing by Baylies and Goodwin and the lithograph by Gardner; the others are in cited publications, and are not sent. The Committee has also examined a manuscript letter of Ezra Stiles, describing inscribed rocks at Scaticook and other places. Copious extracts are given from Stiles's letter, and copies of some of his drawings, (not including any of Dighton Rock), are enclosed. The Committee has also heard of inscribed rocks in Rutland and in Swanzy, Massachusetts.[4]

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[1] Pp. 356–361.

[2] This remark was later distorted by at least two writers (Beamish, 1841 and 1907, and Bodfish, 1885) into the statement that the mounds and other things mentioned were in the western part of Bristol County, Massachusetts.

[3] Both name and date of this drawing as here given and from this source always subsequently known, are partially erroneous. See our Publications, xix. 83.

[4] The one in Swansea was never found. Concerning that at Rutland, Webb

Apparently nothing more was heard from Rafn for several years. Meanwhile, on April 25, 1833, the society appointed a committee on the antiquities and aboriginal history of America, consisting of Dr. Thomas H. Webb, John R. Bartlett, and Albert G. Greene.[1] By the following September, the society had received a formal acknowledgment of the receipt by the Royal Society of Northern Antiquaries of the letter and documents sent in 1830.[2] On May 23, 1834, Rafn again made similar acknowledgment in a letter containing a long list of questions and stating his confidence that he should probably succeed in deciphering the Dighton inscription.[3] A special meeting of the board of trustees was held on August 15, at which this letter was read; and it was voted "that said communication be referred to the Committee on the Antiquities and Aboriginal History of this Country, with full power to take such steps as they may deem expedient" (T). Some time between this date and the following September 27, Dighton Rock was twice visited, "the first time to make the necessary preparatory arrangements, and the second, to take a drawing of the Inscription."[4] "This Drawing," they declared, "is confidently offered as a true delineation of what is now to be seen on the rock, altho' it will be found to differ much from every other copy that has come under our observation." The committee again visited the rock, "for the third and last time on the 11th of December and the Society's Drawing made as perfect as circumstances would admit of."[5]

Meanwhile, the committee also concerned itself with formulating answers to Rafn's numerous queries. These asked for fuller information as to the rock and its environment, the nature of the bird and the quadruped figured upon it, the occurrence of ruins or antiquities near-by,[6] the occurrence of wild grapes, wild grain and ornamental

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later wrote that its alleged inscription had nothing artificial about it (No. 16 p. 400).

[1] C ii. 54; R, July 19, 1833.

[2] T, September 3, 1833; R, July 19, 1834.

[3] C ii. 41.

[4] T, October 14, 1834; C ii. 25, 31.

[5] C ii. 30; T, January 6, 1835.

[6] The answer given was that there were none; but at a later date Webb called Rafn's attention to the so-called "Fall River Skeleton in Armor" and to the Newport tower, which were accepted by Rafn as Norse remains.

wood, character of the climate, especially in winter, and the like. A draft of a reply was submitted to the trustees on October 14, 1834; and it was voted to forward it, together with the accompanying documents, and that it be signed by the president and the secretary of the society "for and in behalf of this board." [1] A few changes were subsequently made in it, and the completed document was dated November 30, though without altering the statement that the committee "reported to the Board this day" — that is, October 14.[2] A second letter was also prepared and given the same date, stating that the committee had unsuccessfully attempted to find alleged inscription rocks in Swansea and Tiverton.[3] Apparently there was also a third letter of the same date.[4] A second report was made to the trustees on January 6, 1835;[5] a fourth letter was written on January 19, and then or shortly afterwards the four letters were forwarded to Copenhagen and received there on March 30.[6] It will be remembered that the drawing by Baylies and others of 1789 and that by Job Gardner of 1812 had already been forwarded in 1830. In the parcel with these new letters of 1834–1835 were included [7] copies of the drawings by Winthrop 1788, E. A. Kendall 1807, Sewall 1768, and Danforth 1680; [8] a book on geology, a chart and a map,

[1] T, vol. i; C ii. 31.

[2] C ii. 33. This reply was published in full in no. 16, pp. 361–371.

[3] Published in part in no. 16, p. 372.

[4] C ii. 52; no. 483, viii. 189.

[5] T; C ii. 30, 34.

[6] See same references as for third letter.

[7] C ii. 30.

[8] The Winthrop and the Kendall were copied from the Memoirs of the American Academy of Arts and Sciences and had been mentioned by Webb in his letter of 1830. The Sewall was especially copied for this occasion from the original at Harvard College (see our Publications, xix. 61 f). The Danforth was unknown to Webb previous to September 27, 1834 (C ii. 25), but he had heard of the papers in Archaeologia by Lort and Vallancey. On October 14, he had not yet seen Archaeologia, and hence was not yet acquainted with Danforth; but by November 30 he had found it, and inserted a reference to it in the revised reply to Rafn (C ii. 33). Of it he says that it "purports to be 'a faithful and accurate representation of the Inscription.' This is not sent with any idea that it will prove serviceable in your present inquiry, but simply to shew what strange things have been conjured up by travellers, and sent to Europe for examination" (no. 16, p. 371). This derogatory opinion as to the merit of Danforth's drawing we have already claimed is wholly unjustified (our Publications, xviii. 254). His statement that it purports to be a faithful and accurate

and two specimens of the rock; and in addition to these the two following items, which finally prove that the true date for the society's own drawings is 1834, not 1830:

Copy of R. I. Hist. Soc. Drawing of the Dighton Rock Inscription.[1]
R. I. Hist. Soc. Representation of the Rock.[2]

A letter from Rafn dated April 16, 1835, acknowledged the receipt of these documents and asked certain further questions about local names, the coasts of Rhode Island, and the occurrence of honey-dew;[3] and on the 19th of November he made a few additional queries.[4] At the annual meeting of the society on July 21 many of these matters were referred to (R). During this summer of 1835, the committee continued its activities, endeavoring unsuccessfully to obtain copies of Stiles's drawings of the Tiverton rocks;[5] seeking unsuccessfully to find alleged inscription rocks in Warwick on July 31 and on Gardner's Point on Mattapoisett Neck in Swansea on August 5; and visiting and delineating rocks with inscriptions at Portsmouth before July 20 and on August 10, and at Tiverton on August 18 and 19.[6] The results of these investigations, accompanied by drawings of the Portsmouth and Tiverton rocks, were communicated to Rafn in letters dated September 14[7] and October 31.[8] The second of these, as preserved

representation is also an error, rendered worse by being placed within quotation marks, whose only possible source must have been Vallancey's description of it in Archaeologia (viii. 303) as "a fac simile copy of the inscription, taken before the stone was impaired or injured, exactly half a century prior to Dr. Greenwood's drawing." In this distorted quotation by Webb lies the source of the still more distorted claim by Wilson in 1862 that "Dr. Danforth executed what he characterized as 'a faithful and accurate representation of the inscription,'" and a nearly similar statement in the unpublished manuscript by the Rev. C. R. Hale, written in 1865 (see our Publications, xviii. 254 note). Naturally it was meant by its author faithfully and accurately to represent the inscription, and it succeeded far beyond most subsequent drawings. But Danforth never made any claim as to its merits, nor did Vallancey state that he had done so.

[1] Reproduced with alterations by Rafn in no. 16 as "Rhode Island Historical Society's 1830."

[2] Reproduced with alterations in no. 16 as "View of the Assonet Inscription Rock. J. R. Bartlett del."

[3] C ii. 52; no. 483, viii. 189.

[4] C ii. 45.

[5] C ii. 48. Apparently they never heard of his drawings of Dighton Rock.

[6] C ii. 40, 49, 74; no. 16, pp. 397 f.

[7] No. 16, pp. 397–399.

[8] C ii. 49; no. 16, pp. 400–404.

in the files of the society, is a very closely written 18-page letter, discussing Indian names as well as the inscriptions, and only a small portion of it was printed in the Antiquitates Americanæ. It makes mention also of the fact that Mr. Almy, owner of the Tiverton Rocks, understood Stiles in 1780 to say that there was an inscription rock near Mt. Hope.[1] On November 16 the committee made report to the trustees on its recent activities;[2] and on December 11, 1835, Albert G. Greene lectured before the society on the subject of ante-Columbian discoveries. Whether or not he made mention of these inscribed rocks in that connection is doubtful, for Rafn's conclusions on this subject were not yet published, and there is no indication that the latter had given any preliminary information as to their nature in his correspondence with the society.[3]

No further contributions on the subject were sent by the Rhode Island society to Denmark; but the society's records give evidence of an active interest in these matters that continued at least until 1841. At each annual meeting during these six years the report of the board of trustees mentions a continuing correspondence with the Danish society. In 1836, moreover, the report includes a long discussion on the general subject of Inscription Rocks,[4] urging further efforts toward their discovery, study and preservation, and expressing the following opinion concerning their importance:

> We are confident that these memorials have been viewed by many in a wrong aspect; they have been considered as naught but insignificant scrawls, heedlessly made, and destitute of method or design. Not so are they looked upon abroad. . . . Whether, however, they are monuments erected in by-gone times by some colony or wanderers from the Eastern Hemisphere, are the peckings of idlers, (and industrious idlers must they have been), the records of the red man, or what some have hastily though not very sagely imagined, the effects of Nature's freaks, they have proved extremely valuable to us, and will in future be viewed with an increasingly intense interest by all. . . . The Royal Society of Northern Antiquaries declares them of great importance in a historic point of view, monuments whose destruction would be an irreparable loss to science.

[1] This rock has subsequently been rediscovered. Its inscription is described and figured in no. 312, and in W. H. Munro's History of Bristol, p. 388.

[2] C ii. 74.

[3] No. 483.

[4] This report was printed, and a copy is preserved in C ii. 101.

In 1838, the society seriously considered the possibility of purchasing the Rock, as is shown by the following record of July 19; although there is nothing further in correspondence or other records to show what steps, if any, were taken:

Resolved that the secretary be directed to address a letter to the American Antiquarian Society, and the American Historical Society, urging the necessity that measures be taken by them for the preservation of the Dighton Inscription Rock — provided the same together with a suitable portion of the adjoining land cannot be purchased by the Board of Trustees for this Society.

The last mention of Dighton Rock in the records of the society, so far as I have examined them, appears in the report of the trustees at the meeting of September 21, 1840. They speak of a letter received in April from Dr. Christopher Perry of Newport, saying that he had discovered some rocks near Newport bearing inscriptions resembling those on the rocks at Dighton and Portsmouth. "Since then the rock has been visited and examined by John R. Bartlett. The impressions were found to be very indistinct, but Mr. B. succeeded in making a drawing, which will be presented to the Society."

Some further details concerning the making of the new drawings of 1834 can be learned from a letter written by Bartlett in 1873 to the librarian of the society:

The Society . . . appointed Dr. Webb, Albert G. Greene and myself, a Committee to visit the Dighton Rock. . . . We accordingly opened a correspondence with Captain Smith Williams, of Dighton, in relation to the rock, and upon the invitation of that gentleman, visited Dighton, and passed the night at his house. . . . Early on the following morning Captain Williams sent a man to the rock . . . with brooms and brushes to clear it of weeds and moss. . . . We crossed in a boat. . . . When it was completely exposed to view, Dr. Webb and Judge Greene traced with chalk every indentation or line that could be made out, while I, standing further off, made a drawing of them. . . . As I progressed with my drawing, my companions compared every line with the corresponding one on the rock, to be sure that every figure was correctly copied, and nothing omitted. We were several hours thus employed and it was not until the tide had begun to flow and cover the rock that we desisted from our labors. . . .

Dr. Webb and I afterwards traced several miles of the shores of

Rhode Island in search for inscribed and sculptured rocks. We discovered several of which I took copies, and which Dr. Webb afterwards transmitted to Copenhagen. There was nothing remarkable in these sculptures, which were, doubtless, nothing but the scratches of some idle Indians, without any meaning.[1]

Further indications of the great care with which the Dighton Rock Drawing was made are given by Dr. Webb. In his letter of 1834 he says:

Our Committee have taken particular pains to represent on the Society's Drawing all that could be satisfactorily made out upon the lower part of the rock. This was formerly, no doubt, well covered by the Inscription; but if ever as deeply engraven as the upper portion, it has become, through the lapse of time, and the war of the elements, so far obliterated, that it is utterly impossible to follow the lines. We have copied, with continuous lines, all that is still to be clearly ascertained, much of which, it will be seen, varies from every other representation, not even excepting Dr. Baylies'; we have also shewn, by broken or interrupted lines, certain portions which we feel considerably confident about, although the unaided eye would not have enabled us to copy them; but there is much, very much, that is beyond our power to delineate with the least degree of accuracy; all such, we have, of course, left unrepresented.[2]

In another letter written in 1854, Webb speaks of the importance of viewing the inscription at different times of day and by different lights, and continues:

In the drawing transmitted to the Royal Society of Northern Antiquaries portions are represented in different ways; three modes are resorted to,[3] according to the distinctness or faintness of the original; and much was so extremely indistinct, that we deemed it advisable to leave the spaces, thus conditioned, blank. What is figured was carefully examined by four individuals, each inspecting for himself, and subsequently conferring with the others; and nothing was copied unless all agreed in relation to it.[4]

[1] No. 41.

[2] No. 16, p. 365.

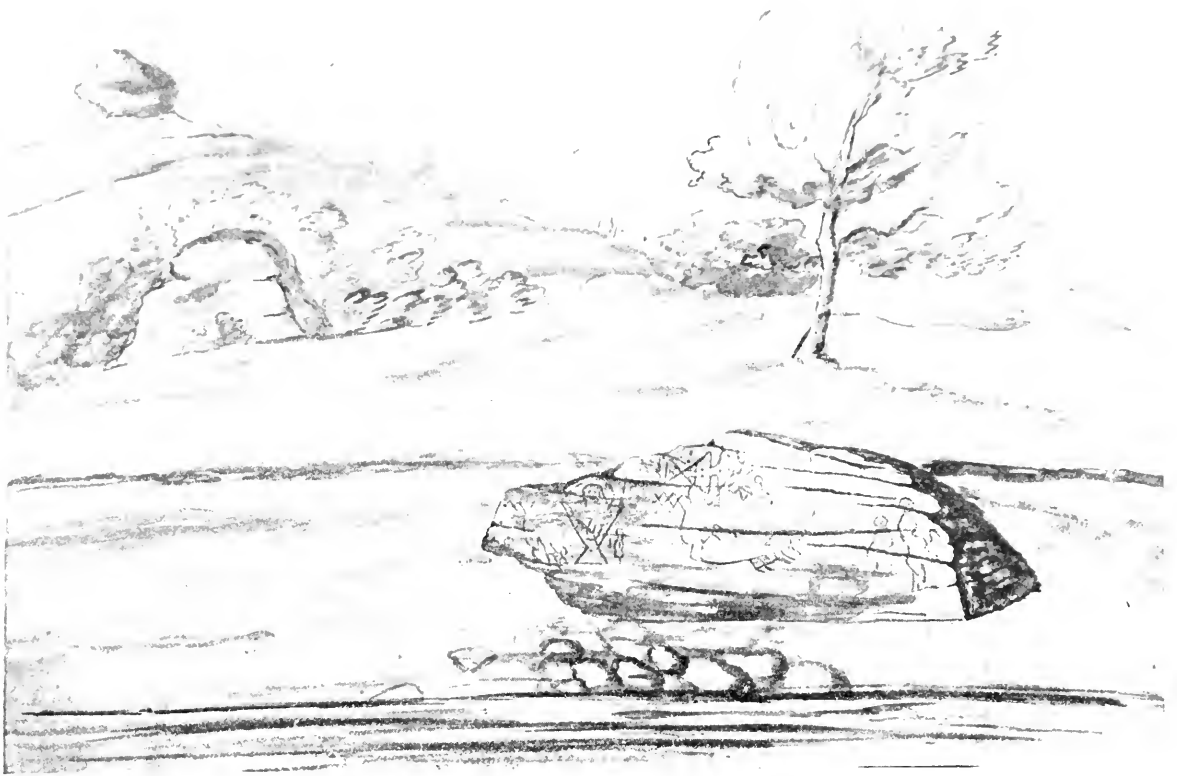
[3] This is an error of memory. Two modes only were used, the continuous lines and the broken lines alluded to above. The third mode, the use of shaded lines, was a later addition by Rafn.

[4] No. 482.

The accusation has sometimes been made [1] that the committee who made the drawing knew of the theory that Rafn was seeking to prove, and complaisantly allowed their imaginations to discover confirmatory letters and figures on the rock. As Webb put it, in the letter last quoted: "Another boldly and shamelessly asserted, that knowing what the Danish society wished to find there, or to make out, we, the suppliant tools, formed and fashioned characters accordingly." Such a charge is clearly baseless. It is practically certain, as already stated, that the committee knew nothing concerning Rafn's conclusions before these were published; the above descriptions give evidence of the extreme care with which the drawing was made; and comparison of the genuine and original drawing with Rafn's reproduction is sufficient to show that all of the imaginative features on which the Norse theory was based are due to Rafn, and not to the committee. The same considerations afford a sufficient answer to even more extravagant accusations against the Rhode Island committee. There is no need to take them seriously. But mention of them adds a bit of humor in the midst of our long discussion, and serves to illustrate the infinite variety of opinion and controversy that centers about this rock. Laing put his accusation in a facetious form in speaking of "the ridiculous discovery of the Runic inscription" and of its companion in crime, the Newport mill. "Don Quixote himself could not have resisted such evidence of its having been a wind-mill. But those sly rogues of Americans dearly love a quiet hoax. . . . It must be allowed that these Rhode Island wags have pulled off their joke with admirable dexterity." But Melville was apparently serious in claiming "this inscription has been copied by some designing wretch, and forwarded to . . . Copenhagen, undoubtedly for deception;" [2] and so too was an anonymous writer of 1881 who, in a paper about as full-crammed with errors in statement as it could hold, remarked that "some person, in order to practice deception, forwarded an altered copy of the inscription." [3]

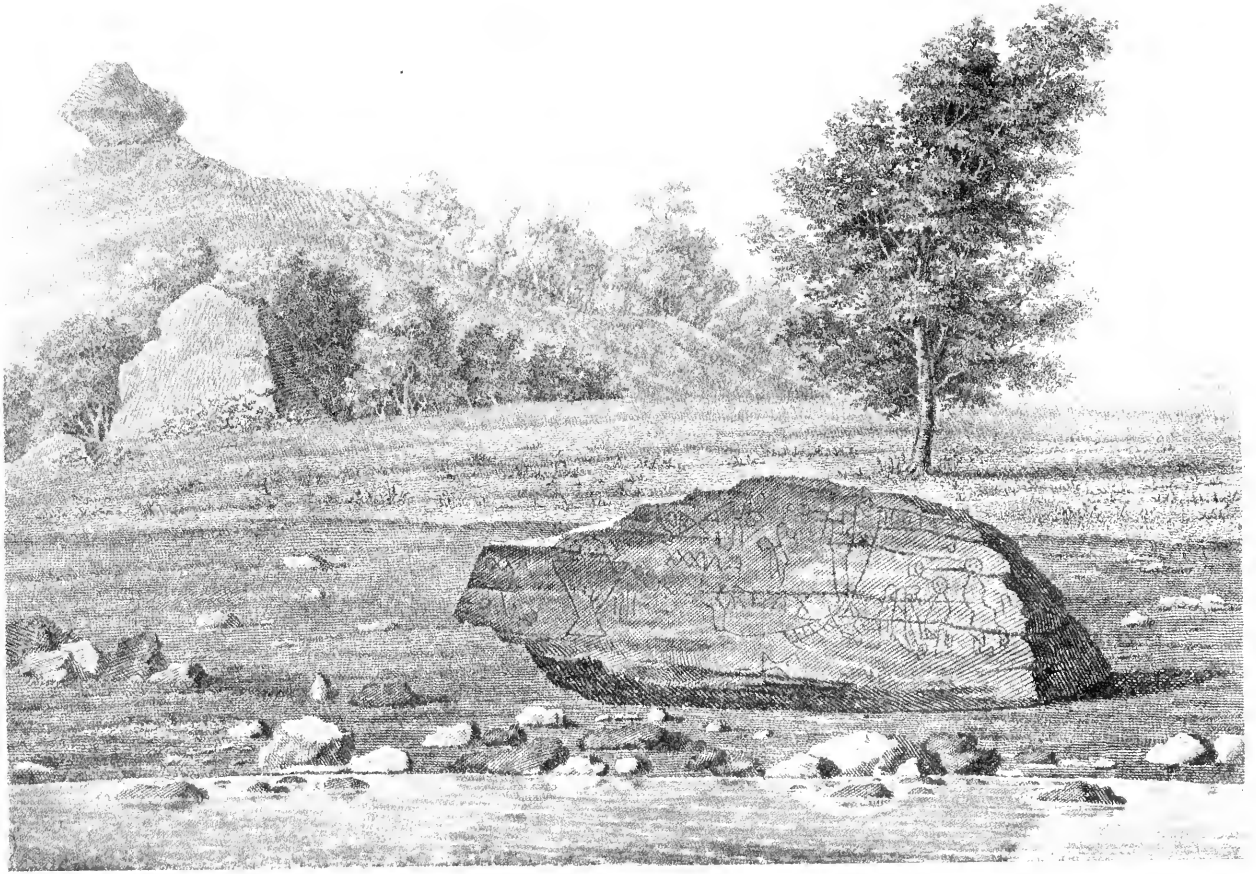
On the other hand, excessive praise has sometimes been accorded to this drawing, as the best and most reliable ever produced. There is no such thing as a "best" drawing or photograph, except such as

[1] Wilson, no. 493. Denied by A. H. Everett, no. 156.
[2] Nos. 276, 310, 355.
[3] No. 293.



BARTLETT'S VIEW OR SKETCH, 1834

FROM A PHOTOGRAPH OF THE ORIGINAL IN THE ROYAL LIBRARY, COPENHAGEN



RAFN'S REPRODUCTION OF BARTLETT'S VIEW OR SKETCH, 1837

FROM ANTIQUITATES AMERICANAE, 1837, TAB. X. ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

depict the face of the rock in its natural condition, without any interpretative preliminary tracing of its supposed lines by means of chalk or other substances designed to render them easier to reproduce.[1] In this case, the lines were chalked.

We have seen that there were two drawings of Dighton Rock produced by the committee of the Rhode Island Historical Society in 1834 and forwarded to Rafn. To distinguish them, we shall hereafter make use of Rafn's distinctive terms, referring to the one usually known as the "Rhode Island Historical Society's 1830" as the "Drawing" of 1834; and to the other, representing the rock in its surroundings, as Bartlett's "View" or "Sketch" of the Rock.

The Drawing was made sometime between August 15 and September 27. Examination of the tide data for that year enables us to approximate even more nearly to the exact date. There could not possibly have been a sufficiently long exposure of the face of the rock to permit of the several hours of work over it that Bartlett describes, unless at an exceptionally low tide. Only one such occurred between the dates mentioned. There were three spring tides within this period, following the full moon of August 19, the new moon of September 3, and the full of September 17. On the first and third of these occasions the water at low tide — unless attended by unforeseeable circumstances which would not have influenced the choice of the day — probably did not fall below mean low water. But at the new moon period, with perigee occurring on the following day, low water at Newport probably fell .6 foot below mean on September 3, again .6 on September 4, and .7 on September 5; and there must have been an even more extensive fall in the Taunton River.[2] We may then conclude with practical certainty that we are justified in fixing the date of the Drawing as on or about September 4, 1834, with the possibility that some revision of it was made on the occasion of the final visit to the rock on December 11.

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[1] See our Publications, xix. 87, 112.

[2] The tide tables of 1834 do not give these data. But Professor Frederick Slocum of Brown University, to whom I referred the problem, tells me that the relations of Full and New to Perigee and Apogee were nearly the same in 1913 as in 1834. He kindly calculated the results for me, and remarks: "By analogy it would seem as if the tides of September 4, 1834, should have been 8 or 9 inches lower than the tides of August 20 or September 18. Theoretical considerations would lead to the same conclusions."

The View also was doubtless sketched on one or both of these dates; but was probably completed at home, for some of the features included in it are far from being correct representations of the actual scene.[1] The hill shown behind the rock does not exist in that place, though there is a very slight rise there, and a wooded hill a considerable distance further back. The peculiarly shaped boulder shown on its summit is not now, at least, either on top of the slight rise of ground near the rock or on the summit of the hill, although there is a delicately poised boulder, differently shaped, on the slope of the hill and entirely invisible from the shore. The view, then, introduces fanciful details and hence was probably not executed on the spot. Its presentation of the inscription on the face of the rock is similar to that of the Drawing, but is much more sketchy and was evidently not designed to be exact.

Inasmuch as there developed in the course or my investigations reasons for believing that what purport to be reproductions of these two drawings in the Antiquitates Americanæ could not be relied upon to assure us what the original drawings were like, I made search for the latter. Unfortunately no copies of them have been preserved by the Rhode Island Historical Society. On writing to Denmark, however, I discovered that the original drawings themselves are preserved in the Royal Library at Copenhagen, and thus I was enabled to secure photographic copies of them, which are reproduced in Plates XXXIII and XXXIV.[2]

Rafn's Reproductions of these and other Drawings, 1837

In his Antiquitates Americanæ, which appeared at last in 1837, Rafn presented nine drawings of the Dighton Rock inscription, besides the View of the rock, and six drawings of the Tiverton and Portsmouth inscriptions. Most of these were reproduced from the drawings sent to him by the Rhode Island Historical Society. Those by Mather and by Greenwood, which Webb mentioned but did not copy for him, he must have taken from Archaeologia; and the Danforth and Sewall he may have derived from either source. The

[1] Compare it with the Shove lithograph, Plate XXXVII.

[2] I am informed that the measurements of the originals are: of the View, about 9 x 11.4 inches (23 x 29 cm.); of the Drawing, about 15.3 x 35 inches (39 x 89 cm.).

two earlier papers of this series have shown in one plate the nine drawings as copied by Mallery from Antiquitates Americanæ; and in succeeding plates, more accurate reproductions of the originals of them all except the two of 1834.

In presenting the two new drawings of the Rhode Island Historical Society, Rafn was not content merely with accurately reproducing them as they were sent to him. Consequently we exhibit his reproductions side by side with their originals in Plates XXXIII and XXXIV. In the View,[1] it will be seen that he has greatly embellished the landscape, and that also he has introduced a great deal more of detail in the inscription. The added details have clearly been transferred from the other Drawing. The reproduction of the Drawing[2] is very faithful to the original with the minor exception that the outline of the rock has been copied from the View instead of from the original drawing, and with the further exceedingly important exception that in certain parts of the inscription Rafn added a number of conjectural lines of the most essential importance for the interpretation of the inscription that he advocated. These inserted lines are all, with one exception, in the central portion of the inscription, and are as follows: the entire character, resembling a Greek Gamma, that precedes the three X's; the very short lower portion of the right-hand line of the character M in the same line; in the line below, following the diamond shape, the lower half of the upright line of the R, all of the F except the upper half of its upright line, the entire I, the first upright of the misshapen N, and the two horizontal lines of the X; and finally, at the extreme left of the drawing, all of the P-like character except its dotted outlines, which by themselves alone do not resemble a P. Rafn believed that he was justified in supplying these conjectural restorations, through a comparison of the Rhode Island Historical Society's drawing with earlier ones, especially those of Kendall and of Baylies. In fact, all of his inserted lines are present in one or more of the earlier drawings, with the exception of those of the F. Here, where both of the Rhode Island drawings have allowed him sufficient space to insert the two characters, FI, one or the other of them must be taken as an absolutely unsupported conjecture on his part; and a careful study of the rock itself, or of the Hathaway

[1] No. 16, Tab. X. Measures about 7¼ x 10 inches.

[2] No. 16, Tab. XII, Number IX. Measures about 5 x 11½ inches.

photograph [1] of it, shows that there is absolutely no trace of more than one character in that position, and actually no room for two of them. By means of these amendments to the drawing, Rafn believed that he could read the following numerals and words as part of the inscription: CXXXI, NAM, THORFINS. For his purpose, the Gamma was interpreted as a C; and the P, either the one alluded to above or an assumed one immediately before the O, as the Icelandic Þ, equivalent of TH.

On the drawing as he presented it, Rafn attempted to distinguish his own additions by drawing them with shaded lines. Unfortunately, the shadings are not very distinct, and are easily overlooked.[2] Of the fifteen later reproductions of this drawing known to me, six present it without any shading or other marks of distinction whatever, and few of the others copy the shaded portions in exactly the same positions as on the original.[3] Moreover, although it may be inferred from his discussion of these portions of the drawing in his text,[4] Rafn nowhere explicitly says that the shaded lines are additions by himself, but misleadingly calls the whole "The Rhode Island Historical Society's" drawing. As to the View, there is nothing whatever in text or in distinguishing marks on the drawing that could lead one to infer that he had greatly amplified and embellished what was sent to him, hence he wrongly attributes it to J. R. Bartlett as its delineator. As a consequence, only the most critical readers of his text have

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[1] Plate XXXII.

[2] Among others, Squier called attention to this disadvantage. He says of the interpolations that they are "hardly to be distinguished, by the lighter manner in which they are engraved, from the rest of the so-called inscription — a circumstance which has been a fruitful source of error to superficial inquirers" (no. 436). It is to be noticed also that even a photographic or a photostatic copy of the drawing in the Antiquitates is very likely to blur the shaded lines so that they are not distinguishable from the others.

[3] The reproductions known to me are as follows:

Of the View in whole or in part: Aall, 1838; Schoolcraft, 1839; Laing, 1844; Lelewel, 1852; Horsford, 1887; Winsor, 1889; no. 34. Also a painting in oil prepared for A. H. Everett, 1838, for which see p. 320 note 2, below.

Of the Drawing: Aall, 1838; Barber, 1839; Beamish, 1841; Laing, 1844; Hermes, 1844; Guillot, 1844; Holmberg, 1848; Schoolcraft, 1851 (in part); Gravier, 1875; Andree, 1878; Mallery, 1889; Onffroy de Thoron, 1889; Gaffarel, 1892; Neukomm, 1896; Brittain, 1903. Note also reproduction prepared for A. H. Everett, 1838, for which see p. 320 note 2, below.

[4] No. 16, pp. 387 f.

clearly realized how much of the depicted inscription was due to the actual observers of the rock, and how much was purely conjectural; and this fact has led to much misconception as to the strength of the argument for the Norse theory of the origin and meaning of the inscription. Hereafter, no one should refer to either of the two drawings in the Antiquitates Americanæ as those of the Rhode Island Historical Society. They should evidently be known as Rafn's conjectural drawings, based on a comparison of the Rhode Island drawings with those of earlier date.

It is a curious fact that none of the originators of the drawings, so far as I have knowledge of their published writings and unpublished letters, ever disputed the correctness of the date that Rafn assigned to them, or the justice of calling them, exactly as they were published, the Rhode Island Historical Society's drawings. Webb, we have seen, even came to believe that the shaded lines as well as the others had been drawn by his committee. It has required a careful study of Rafn's text, a comparison of the statements of nearly all the later expositors of his theory, and finally an examination of the original records of the Rhode Island Historical Society and the securing from Denmark of copies of the original drawings, to make possible a presentation of the actual facts.

The results of Rafn's studies were published in 1837 in an impressive volume entitled Antiquitates Americanæ. A month before it appeared, however, a brief hint concerning his conclusions about Dighton Rock had already been given. The periodical called Dansk Kunstblad in its issue of March 17 reproduced Kendall's drawing of the rock, and remarked: "A rock found in Massachusetts, which is covered with numerous hieroglyphics and sundry characters of *Runic* appearance, will, if correctly delineated, furnish to our antiquaries unlooked for elucidations of the olden time of America, and of its indisputable connexion with the old world in times that are long since passed away." [1]

Antiquitates Americanæ, 1837

Whatever may be said of the success of the attempt to connect Dighton Rock with the visits of the Northmen to America, and

[1] This is quoted from a letter from M. Weslauff, President of the Royal Society of Northern Antiquaries, who speaks of the rock as "a very important monument" (no. 485).

through it or otherwise to identify localities connected with their discoveries, the service rendered by the publication of the Antiquitates Americanæ was a memorable one. The book is a quarto volume of 526 pages, illustrated by facsimiles of some of the ancient manuscripts, by maps and charts, and by six engravings of Greenland and American monuments. The body of the work contains an Introduction written in Danish and Latin; a Conspectus of the eighteen manuscripts presented; a twelve page essay written in English entitled "America Discovered by the Scandanavians in the Tenth Century. An Abstract of the Historical Evidence Contained in this Work;" the original text of each of the Icelandic manuscripts with a Danish translation in parallel columns and a Latin translation subjoined; lengthy discussions in Latin of monuments found in Greenland and America; and finally, geographical annotations in Latin, and indexes.

In order to appreciate satisfactorily the setting into which the theory of Dighton Rock was fitted, it is necessary to review briefly the story given in the Historical Abstract. Eric the Red settled in Greenland in the spring of 986. Later in the same year, Biarne Heriulfson, attempting to join Eric's colony, was driven out of his course and saw strange lands of three typically different characters, but did not go on shore. In 1000, Leif, son of Eric, set forth to discover Biarne's new lands. The first that he found he called Helluland (identified by Rafn with Newfoundland), the second, Markland (Nova Scotia), and the third Vinland, because of the wild grapes found there (vicinity of Cape Cod and Nantucket). Here he erected large houses, afterwards called Leifsbooths (in Mount Hope Bay), and wintered. Thorwald, Leif's brother, sailed in 1002, and passed two winters at Leifsbooths. He explored the country to the south, and gave the name Kialarnes to a prominent headland (Cape Cod). He was killed in a contest with Skrellings, and was buried at Krossanes (Gurnet Point). His companions wintered once more at Leifsbooths. In 1005, Thorstein, another son of Eric, made an unsuccessful voyage. Thorfinn Karlsefne, a wealthy and powerful man of illustrious lineage, went from Iceland to Greenland in 1006, accompanied by Snorre Thorbrandson, Biarne Grimolfson, and Thorhall Gamlason. Thorfinn married Gudrida, widow of Thorstein. In the spring of 1007 he set sail in three ships with his wife and companions, together also with Thorward and his wife Freydisa, daughter of Eric, and another

man named Thorhall. They had with them 160 men and much livestock, intending to establish a colony. They found all the places already named, and gave names also to Furdustrandir (Wonder strands; the long sandy stretches of Cape Cod), Straumey (Stream Isle; Martha's Vineyard), and Straumfiördr (Streamfirth; Buzzards Bay). At the latter place they landed and wintered. Thorhall with eight men left them. The others sailed southwards and arrived at Hop (Mount Hope Bay), where they found wild wheat and vines. They saw natives, erected dwelling houses a little above the bay, and wintered there. No snow fell. In the spring of 1008 (1009?) they traded with the natives, who were frightened away by the loud bellowing of a bull. About this time Gudrida gave birth to a son, who was named Snorre. Early next winter they were attacked by the Skrellings, but repulsed them after a severe conflict. In consequence of the hostility of the natives, they left Hop, and after some further exploration they spent the third (fourth?) winter at Streamfirth, and returned in 1011 to Greenland.[1] In 1012–13 another expedition to Leifsbooths was made under the leadership of Freydisa. Later voyages also occurred, ending with one to Markland in 1347.

The Inscription Interpreted by Magnusen and Rafn

Rafn supported his identifications of localities by arguments drawn from geographical and nautical descriptions, by statements concerning climate and soil, produce and natural history, and by an observation seeming to determine the length of day and hence the latitude. But the most conclusive evidence that the Hop of the Northmen was situated at the head of Narragansett Bay, he believed, is furnished by the inscription on Dighton Rock. Apparently before he had received the new drawing of 1834, Rafn submitted some or all of the earlier drawings to Finn Magnusen[2] for his opinion of them.

[1] The text is not explicit as to how many winters were spent in each place. It does state that the return to Greenland was in 1011, and that Snorre was then three years old. It would seem that, in order to make the narrative consistent, the corrections given in parentheses above must be made to the statements of the text.

[2] Magnusen is called by Rafn an expert in Runic inscriptions. But his expertness has been called in question. Rau (no. 370) tells of the instance of the Runamo rock in Sweden, which in 1833 was visited by a committee of the Royal Danish Academy of Sciences, including Magnusen. In 1841 Magnusen pub-

Magnusen's report, based wholly on the Baylies drawing of 1789, was as follows:

I am glad to say that I support unhesitatingly your opinion as to the inscription and figures on the Assonet rock. I believe there is no doubt that they are Icelandic and due to Thorfinn Karlsefne. The Icelandic letter þ, near the prow of a ship, at the spectator's left, shows this at first glance, as do also the principal configurations cut in the rock. Several other considerations support this belief. . . . I. The numeral characters CXXXI exactly correspond to the number of Thorfinn's men; for these were CXL, of whom nine under Thorhall left him at Straumfirth. With the rest he went to Hop. Under the numeral characters appears the combination ᚿᛘ, consisting of two letters, a Latino-gothic N and a runic M,[1] standing for norraenir (north) and menn or medr (men). Between them is a ship divested of masts, sails and ropes, indicating that these men came to this land in the ship but later left it after removing its masts, sails and ropes, and erected fixed habitations on the land occupied by them. The whole phrase means: CXXXI North-European seamen.

II. Following the numerals CXXXI is a Latino-gothic character resembling an M, the right-hand half of which has a crossline making it, taken by itself, an A. This is a monogrammatic combination standing for NAM, equivalent to land-nám. Underneath it is a diamond shaped O followed by an R. This OR is an ancient Scandinavian form for modern Icelandic and Danish *vor*, in English *our*. *Nam or* signifies "territory occupied by us," or "our colonies." — III. In the highest

lished an illustrated quarto work of 742 pages, the principal feature of which was his translation of the marks on Runamo Rock. He made out a runic inscription of thirteen lines. In 1842 and 1844, the rock was visited by J. J. A. Worsaae, who reported "that there is no runic inscription whatever on Runamo Rock, and that the marks considered as runes by Finn Magnusen are simply the natural cracks on the decayed surface of a trap dike filling up a rent in a granite formation." Rau regards the arguments of Worsaae as absolutely convincing. At any rate, it is not difficult to believe the story, after one has examined Magnusen's methods in dealing with Dighton Rock.

[1] The former shaped like a lower-case n, the latter somewhat like a trident. They are easily found on the Baylies drawing in the position indicated. Magnusen's exposition can be followed best by reference to Plate XXVI (our Publications, xix. 106), whose lower drawing is the one used by Magnusen. Plate XXXV (p. 316, below) is a fair substitute, although most of the figures referred to are shown in rather faint dots. Number 23 on that plate is the N, number 21 the M, and between them the mastless ship. The original text uses special forms for the letters C. M, N, and O. differing somewhat from those here employed.

part of the configuration, above the portions just discussed, is a rather artificial figure [1] representing in our opinion a great shield provided with a singular foot resembling a fish-tail. This shield, together with the adjacent inverted helmet, I accept as symbols of the peaceful occupation of this land. — IV. This occupation, or the cultivation of the land or development of the colony, is further indicated by a very crude figure cut in the rock underneath the *n* of norraenir, if this, as we conjecture, represents a heifer lying down or at rest. At the time of the first occupation of Iceland, the ground covered by a heifer in its wanderings during a summer's day customarily determined the extent of the land to be occupied. — V. I believe that the configuration as a whole presents to the spectator this scene: the famous ship of Thorfinn Karlsefne as it first set out for Vinland and came to this shore, with a wind-vane [2] attached to the mast. His wife Gudrida, seated on the shore, holds in her hand the key of the conjugal dwelling, at that time, as is evident, long previously constructed.[3] Beside her stands their three year old son, Snorro, born in America. Thorfinn's CXXXI companions were then occupying Vinland, and had declared it to be their own possession, thus occupied. One of their ships in which they had come, is represented fixed to the shore, for this reason despoiled of its sails.[4] A cock [5] announces by his crowing domestic peace, as do also the shield at rest and the inverted helmet. Then suddenly approaching war is indicated. Thorfinn,[6] leader of the colonists, is seated, enjoying rest; but he seizes his shield [7] and endeavors to protect himself against the approaching Skrellings,[8] who violently assail the Scandinavians, armed with clubs

[1] The combination of figures, largely triangular, whose centre lies above the MA monogram. It is number 3 in Plate XXXV. The helmet next spoken of is number 8 lying to the right of the MA monogram. The heifer is number 22.

[2] Ventilogium. This is a word that is not often correctly translated. It is not given in most Latin dictionaries; but may be found in Du Cange's Glossarium, 1846. The ship here mentioned demands a complaisant imagination for its recognition in the jumble of lines between the P at the extreme left of the drawing and the first human figure. It is number 40 on Plate XXXV.

[3] The key is easily identified inside the drawing representing Gudrida, the large human figure at the left.

[4] This ship is the one mentioned under I, between the N and the runic M.

[5] This is of course the figure of the bird, at the middle bottom of the drawing; number 14.

[6] The apparently human figure just to the right of the central part of the drawing; number 25.

[7] Thorfinn's shield is the series of lines, to the right of Thorfinn, shaped like an hour-glass at the top, thence curving down to a small triangle near the bottom of the human figure; number 10.

[8] The two human figures at the right; numbers 26, 27.

or branches, with bow and arrows, and furthermore with a military machine, unknown to us, which in Thorfinn's history is called a ballista, from which are thrown, besides missiles and large rocks with ropes attached, as is seen, also a huge ball, which fact is testified to in express words in the same history.[1] — VI. Certain other features of the inscription, ropes and runic enigmas, must be left unexplained.[2]

Rafn devotes 42 pages of the Antiquitates Americanæ [3] to his own discussion of Dighton Rock. First he reproduces the letters which he had received from the Rhode Island Historical Society, then quotes the accounts of the rock that had been published by Lort, by Warden, and by Vallancey.[4] Since his time these sources have been accepted as the basis of nearly all accounts of the earlier history of investigation of this subject; but how inadequate this account is both in accuracy and in completeness has been shown constantly in the course of our own investigation. Rafn then announces: "We are of the opinion that the inscription is due to the Icelanders. Finn Magnusen, an expert in Runic inscriptions, whose opinion we consulted, supports us." [5] Magnusen's interpretation is presented, the nine copies of the inscription known to Rafn are enumerated, and finally he reviews the opinions of Magnusen and adds corrections and amplifications of his own. Concerning the numeral characters CXXXI in division I, it will be noticed that Magnusen left them without stating their equivalence in Arabic numerals. Rafn expresses the belief that the C stands for the Icelandic "great hundred," which is ten dozen instead of ten tens. Hence the whole signifies not 131 but 151, the true number of Thorfinn's men after Thorhall's nine had left. The Gothic N and Runic M with a dismasted ship between them are to be regarded as less certain, since they are to be found on the Baylies drawing only. Nevertheless, Magnusen's explanation of them fits

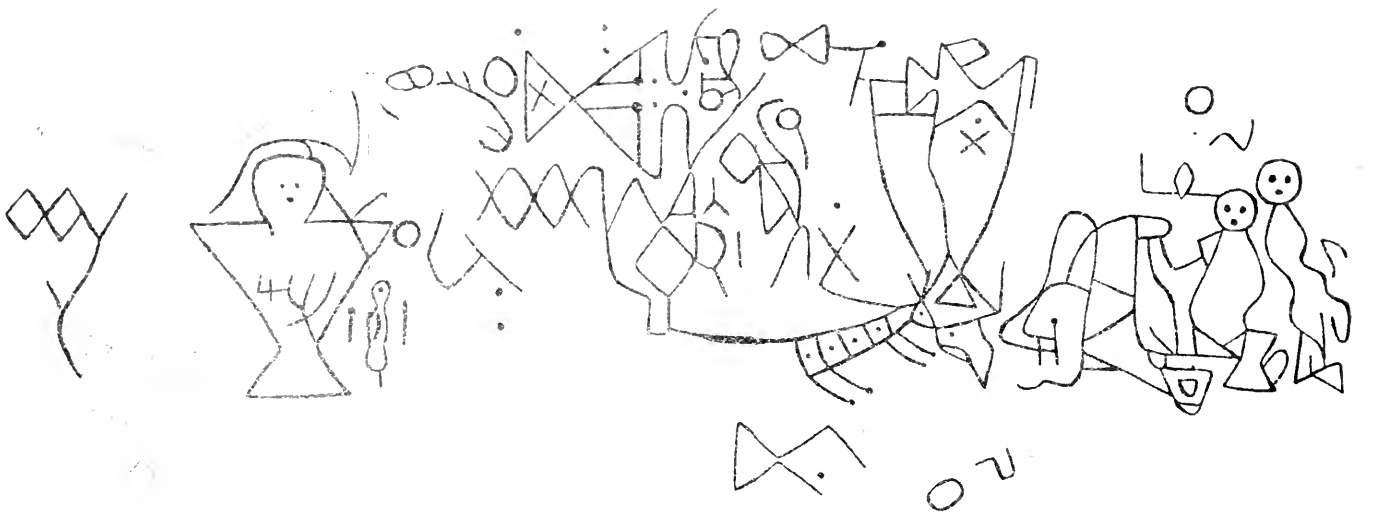
[1] All the implements of war here enumerated can be sufficiently well made out by an active imagination between the shield and the Skrellings. Numerous bows can be imagined, as to the right of 26 at his feet, to the left of 26 above 31, above the head of 26, and at 32. 34 is an arrow. Other lines leftward of 26, also 28, 29, 30, 35 must be the clubs and branches, and the stones with ropes attached. The huge ball resting in the ballista is probably number 31.

[2] No. 16, pp. 378–382. Here translated with some condensation from the original Latin.

[3] Pp. 355–396.

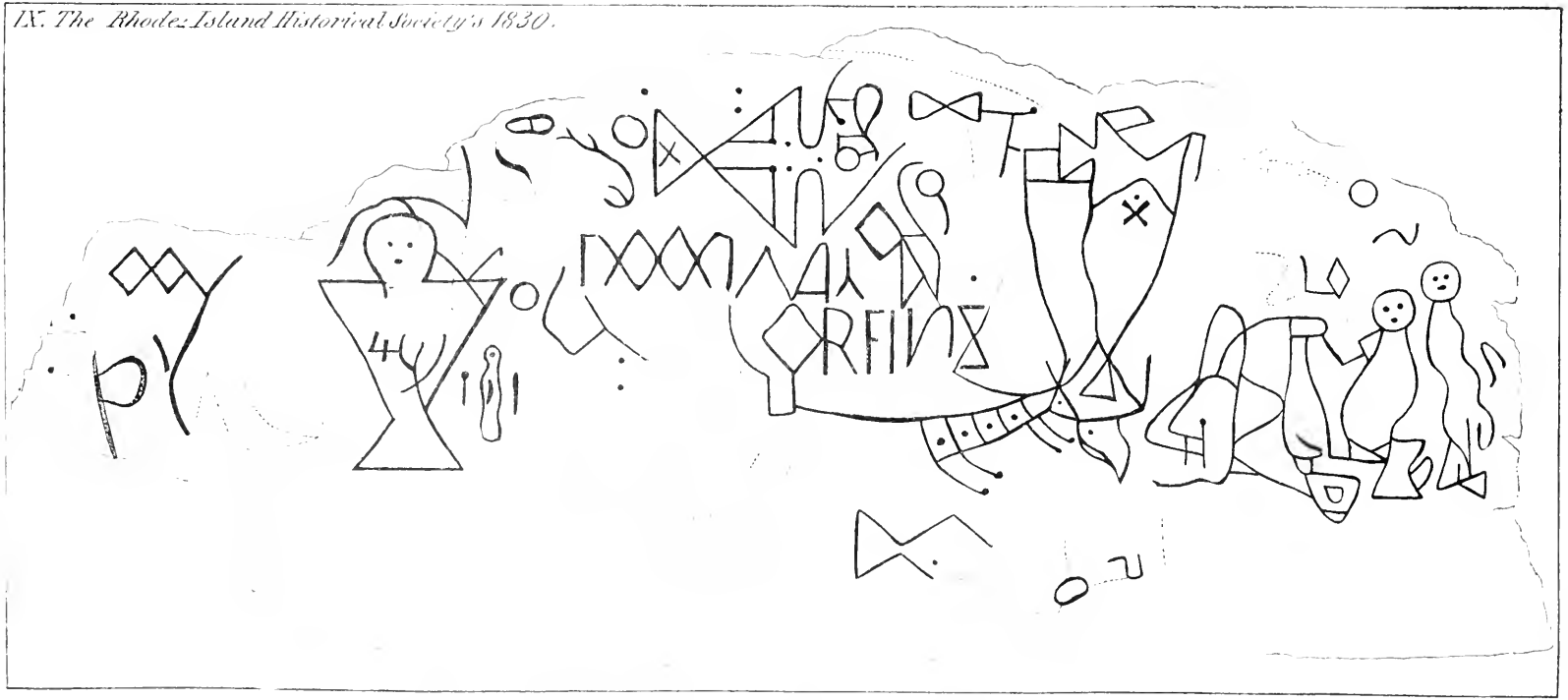
[4] In a footnote on p. 390 he also mentions Gebelin's interpretation.

[5] P. 378.



RHODE ISLAND HISTORICAL SOCIETY'S DRAWING, 1834

FROM A PHOTOGRAPH OF THE ORIGINAL IN THE ROYAL LIBRARY, COPENHAGEN



RAFN'S SO-CALLED "RHODE ISLAND HISTORICAL SOCIETY'S 1830" DRAWING, 1837

FROM ANTIQUITATES AMERICANAE, 1837, TAB. XII, PLATE IX. ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

in so well with the numerals, that their real existence at least formerly is of the highest degree of probability. Under II the NAM is accepted. But instead of OR Rafn finds in the Rhode Island drawing, supported in part by Kendall, as we have already seen, the fuller ORFINS.

In front of these six letters Greenwood's picture places a curved line, which is seen also, among others, even in Mather's earlier drawing. We are not very rash in suspecting this stroke to belong to the letter þ with its first upright line now exceedingly worn or even wholly invisible. If therefore we accept this letter as having been expressed in this place, or even recognize as a þ that letter which, though not a little distant [1] from the succeeding letters, is yet visible in the Rhode Island Society's drawing and is plainly and accurately delineated in the Baylies drawing at the first of the representations of a ship, then there results, according to the greatest probabilities, this reading for the two lines of the inscription, disregarding the numeral characters:

NAM ÞORFINS.

The whole inscription, therefore, reads: "Thorfinn and his 151 companions took possession of this land."

In III, Rafn accepts the interpretation of the figure as a shield, and describes the ancient shields, of which this is a true representation. The figure of a heifer in IV, given in the Baylies and in some part also in the Rhode Island drawing, is very different in Winthrop. Its interpretation is subject to doubt, but yet sufficiently probable. Rafn continues:

V. The principal scenes of this representation correspond so perfectly with the accounts in the old Icelandic writings that this historical interpretation of their meaning is hardly to be regarded as rash or erroneous. The arrival of the Scandinavians in Vinland, their occupation of the land and even their encounter with the Skrellings, are here easily recognized. The figure of a man standing in the middle is given in the Baylies but is lacking in the more recent drawings, and hence is somewhat doubtful. Unless this figure was once there and has since been destroyed by erosion, then the human figure next to the ship [2] ought to represent the leader of the expedition. At his side the best drawings show the figure of a child, which probably indicates Snorre. . . . In

[1] The actual distance is nearly five feet on the rock.

[2] The one that Magnusen called Gudrida.

my opinion this assumption is proven by the fact that at his right side the Rhode Island drawing places the Runic letter S,[1] initial of his name. The animal, placed under the upright shield in most drawings, is represented as having horns. We take it to represent the bull which is mentioned in Thorfinn's history.

The figures at the right, Rafn thinks, are very probably Eskimos with their weapons: stretched bow, ball flying through the air with rope attached, arrow-head, and finally a projected stone dashed against the upper margin of the shield. — VI. The rest is too doubtful for correct interpretation, though, as Magnusen says, there are resemblances to runic letters. — VII. Other examples of inscriptions are cited in support of the theory here advocated.

Following this account of the Assonet inscription is given a description of the inscriptions at Portsmouth and Tiverton in Rhode Island.[2] These, according to Rafn, confirm his opinion as to Dighton Rock. We can see in them certain runic letters of undoubtedly Scandinavian origin, eight of which are specifically mentioned. Finn Magnusen agrees that runic letters occur in the drawings, some of which have a genuine significance. He finds, for example, the runes standing for the letters L and T, and says of them: "We assume that Leif and Tyrker wished to indicate thus their names by their initial letters." Other composite characters occur that are to be taken as monograms. He thus discovers the names An and Aki, and assumes that men of these names accompanied Thorfinn.

No shore to which the Northmen came
But kept some token of their fame;
On the rough surface of a rock,
Unmoved by time or tempest's shock,
In Runic letters, Thorwald drew
A record of his gallant crew;
And these rude letters still are shown
Deep chiseled in the flinty stone.[3]

Inadequacy of these Views

Although not including quite all the detail given it by Rafn, yet the foregoing presents fairly the evidence offered in the Antiquitates

[1] An upright line terminating above in a dot.

[2] No. 16, pp. 396–405.

[3] P. C. Sinding, nos. 417, 418.

Americanæ for the famous Norse theory of the inscription on Dighton Rock. Reserving for a moment the question as to the presence there of the name Thorfinn, it is clearly evident that all the rest of the alleged translation is pure romancing, on an exact par with the detailed readings of Gebelin, of Hill, and of Dammartin. The reader who has followed the changing phases of depiction and interpretation of the inscription thus far must realize that it is easy to imagine as present on the rock almost any desired letter of the alphabet, especially of crude or early forms; and that, starting with almost any favored story, he can discover for it, if he looks for them eagerly enough, illustrative images to fit its various features, and initial letters or even entire words or names. Later examples will give even stronger confirmation of this fact.

Aside from an undoubted fascination in the thought of the bold Norsemen sailing without compass the stormy seas and discovering and colonizing these shores so long a time before Columbus, the one thing that has led to so confident, widespread and prolonged acceptance of Rafn's views concerning Dighton Rock has probably been the apparently clear presence of the name of Thorfinn on the rock. It is undeniably there, plainly visible to everyone, in Rafn's seemingly scholarly compilation of the different extant drawings, published in an impressive volume issued by a highly reputable learned society. It is hardly a matter for wonder that so many persons have seen no reason to doubt the reliability of the depiction. But if this one word can be shown to be doubtful, or indubitably not there, then the whole fabric of Rafn's and Magnusen's ingenious readings falls with it and their translation of the rock's inscription becomes as much a fairy tale as are its earlier and later rivals.

Is there, then, any possibility that the name Thorfinn was cut upon Dighton Rock? We can answer with entire confidence that there is not. A number of distinct arguments may be cited, each one of them wholly convincing. (1) Examination of all of the discoverable drawings and photographs shows that not one of them contains the name. To repeat a statement made in an earlier paper,[1] of thirty attempts known to me to depict this portion of the inscription, about 85 per cent exhibit the diamond shape that Rafn called an O; only 2 show an R, 3 others something similar, all the rest nothing like it;

[1] Our Publications, xix. 115.

in the position where Rafn placed FI, no one has anything like an F, 14 have an I, 10 others some other character, and 6 have nothing; next beyond, Kendall presents a misshapen N, and all the rest some shape that has no resemblance to it; in the final place, all but one give an X. Opinion is almost unanimous that there is nothing there that at all resembles ThORFINS. (2) If the name were actually there, or ever had been, later careful examinations of the rock, often by persons eager to verify Rafn's views, should have shown some confirmation of its presence. Of reproductions since 1837, there are eighteen. All of them have the diamond shape, usually with a vertical attachment below; not one has R, and only one anything resembling it; not one gives two characters in the FI position, and only about half of them draw the single character there as an I; not one finds anything like an N, unless we except the single case where a complex character occurs within which an N could be separated out; all give X, and without horizontal lines either above or below except in two cases. Thus all attempts to confirm Rafn's guess have served only to prove it incorrect. (3) Anyone may now prove the matter for himself as completely as if he were to visit the rock and examine it under favorable conditions of light and tide. Study of the Hathaway photograph [1] is for this purpose superior to direct examination of the rock, for it shows the smallest details of texture of the surface with almost ideal clearness, and can be examined at leisure and in comfort — conditions that the rock itself rarely offers. The result of such study must be the conviction that between the reputed R and N there is not room for two characters unless the R is unduly narrowed, and no trace of more than one; and that although the actual lines are often doubtful yet the conjectural additions made by Rafn are wholly imaginary, corresponding to no actual markings on the rock.[2]

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[1] Plate XXXII.

[2] I do not wish to deny that the picture-completing apperceptive process may construct almost anything it seeks to find in the complex and innumerable details of texture and light reflections of the surface. In that manner I can myself see, though rather ill-proportioned, the whole name Thorfinn there, if I wish to relax into the seeing of dreamlike unrealities. And of course in like manner I can see numerous alternatives with equal ease. But critical examination does not justify the assumption of the actual existence of such subjectively originating lines.

At a later date Rafn added to his "proofs" of the location of Vinland in the region of Narragansett Bay two other objects which played a prominent part in subsequent discussions. One of these was the Stone Tower or Old Mill at Newport.[1] There are very few people now who doubt that this structure is identical with that mentioned by Governor Benedict Arnold in his will of 1677 as "my Stone built Wind Mill," and that it was erected not more than two years earlier on the model of one in England with which Arnold must have been familiar in his boyhood. The facts leading to this conclusion were first announced by Melville and Brooks, made widely known by Palfrey, and corroborated by Mason's expert examination of the architectural evidence.[2] The other apparent relic of the Northmen was the famous "Skeleton in armor" celebrated by Longfellow, discovered in Fall River in 1831.[3] The only foundation for its short-lived acceptance as evidence in favor of Rafn's views lay in the fact that there were found with it a brass breast-plate and a belt made of brass tubes. The argument lost its force when other skeletons similarly equipped were found,[4] when it became known that the Indians were abundantly provided with similar metallic articles when the white men first came into contact with them,[5] and when it was realized that the brass of this particular armor might well have been secured by Indians from early traders or colonists.[6]

In justice to the men most prominently responsible for introducing Dighton Rock and these two companions into the story of Norse discoveries, a word should be said as to their later expression of views. Already in 1838, Rafn referred to the evidence given in Antiquitates Americanæ merely as "hints," and said that the matter would continue to form a subject for accurate investigation. In a letter of January 4, 1848, to David Melville of Newport he said that these

[1] Mémoires de la Société Royale des Antiquaires du Nord, 1836–1839, pp. 361–385. Letters of Webb (1839) to Rafn (pp. 361–368), with Rafn's remarks (pp. 369–385), reprinted in Supplement to the Antiquitates Americanæ, 1841.

[2] G. C. Mason, Jr., Old Stone Mill at Newport, in Magazine of American History, 1879, iii. 541–549.

[3] Mémoires de la Société Royale des Antiquaires du Nord, 1840–1844, pp. 104–119.

[4] Ibid. pp. 110, 118. See also no. 209.

[5] See Winship's Sailors' Narratives of Voyages along the New England Coast, 1524–1624 (1905), pp. 15, 43 f, 56.

[6] 20th Annual Report of the Peabody Museum, 1880–1886, iii. 543 f.

monuments "unquestionably merit the attention of the investigator, but we must be cautious in regard to the inferences to be drawn from them." Yet his letters to Nils Arnzen between 1859 and 1861, in which he approves of a project to remove Dighton Rock to Denmark, show that he still regards it as of "high and pressing importance." The Royal Society of Northern Antiquaries, however, eventually abandoned all belief in the value of the rock as evidence, as is shown by a letter of February 22, 1877, addressed to Arnzen, signed by four officials in behalf of the government of the society, and by a letter of November 1, 1878, from the Society's vice-president, J. J. A. Worsaae, to Charles Rau. The official letter to Arnzen says: "The Society must confess that the inscribed figures on the Rock have, according to the later investigations, no connection with the Northmen's journeys of discovery or sojourn in America, but rather that it is the work of the original races of Indians." Bartlett, in 1846, expressed his belief that no alphabetic characters had been satisfactorily identified on Dighton Rock; and many years later he wrote: "I never believed that it was the work of the Northmen or of any other foreign visitors. My impression was, and is still, that it was the work of our own Indians. . . . Nor do I concur . . . in the belief that it was intended as a record of any kind."[1] Webb apparently clung persistently to the belief that the inscription was Norse, yet conceded that it might be otherwise: "If its anti-Runic character should be satisfactorily shown," and "allowing it to be an Indian Monument, it should be none the less highly prized and carefully preserved."[2]

It is now generally conceded by everyone whose opinion is of value that no material remains of the Norse visits to America have ever been discovered. The nearest indubitable one is that found in 1824 at Kingiktorsoak on the east shore of Baffin Bay. Perhaps we ought to except the so-called Kensington Stone in Minnesota, which has an inscription in characters which are undoubtedly runic, but whose authenticity is still in question.[3] It may be that this will turn out to be, so far as its connection with Northmen is concerned, in the same class as the hoax of Potomac, the fraudulent or at least dubious stone

[1] Nos. 39, 41.

[2] No. 482.

[3] See Minnesota Historical Society's Collections, 1915, xv. 221–286.

of Grave Creek, and the natural markings or Indian picture-writings of Monhegan, Yarmouth, and other places whose "inscribed stones" have been attributed from time to time to the discoverers of Vinland.[1] Other remains of old times besides inscriptions, the best known of which are those of Horsford's Norumbega near Boston, likewise lack proof of any association with these explorers from Iceland and Greenland. The whole matter is well summed up by Babcock:

> So far as investigation has gone, there is not a single known record or relic of Wineland, Markland, Helluland, or any Norse or Icelandic voyage of discovery, extant at this time on American soil, which may be relied on with any confidence. There are inscriptions, but apparently Indians made them all except the freakish work of white men in our own time; there are games, traditional stories, musical compositions, weapons, utensils, remnants of rude architecture, and residua of past engineering work, but no link necessarily connects them with the period of Icelandic exploration or with the Norse race. One and all they may perfectly well be of some other origin — Indian, Basque, Breton, Norman, Dutch, Portuguese, French, Spanish, or English. Too many natives were on the ground, and too many different European peoples, who were not Scandinavians, came here between 1497 and 1620 for us to accept anything as belonging to or left by a Norse Wineland, without unimpeachable proof.

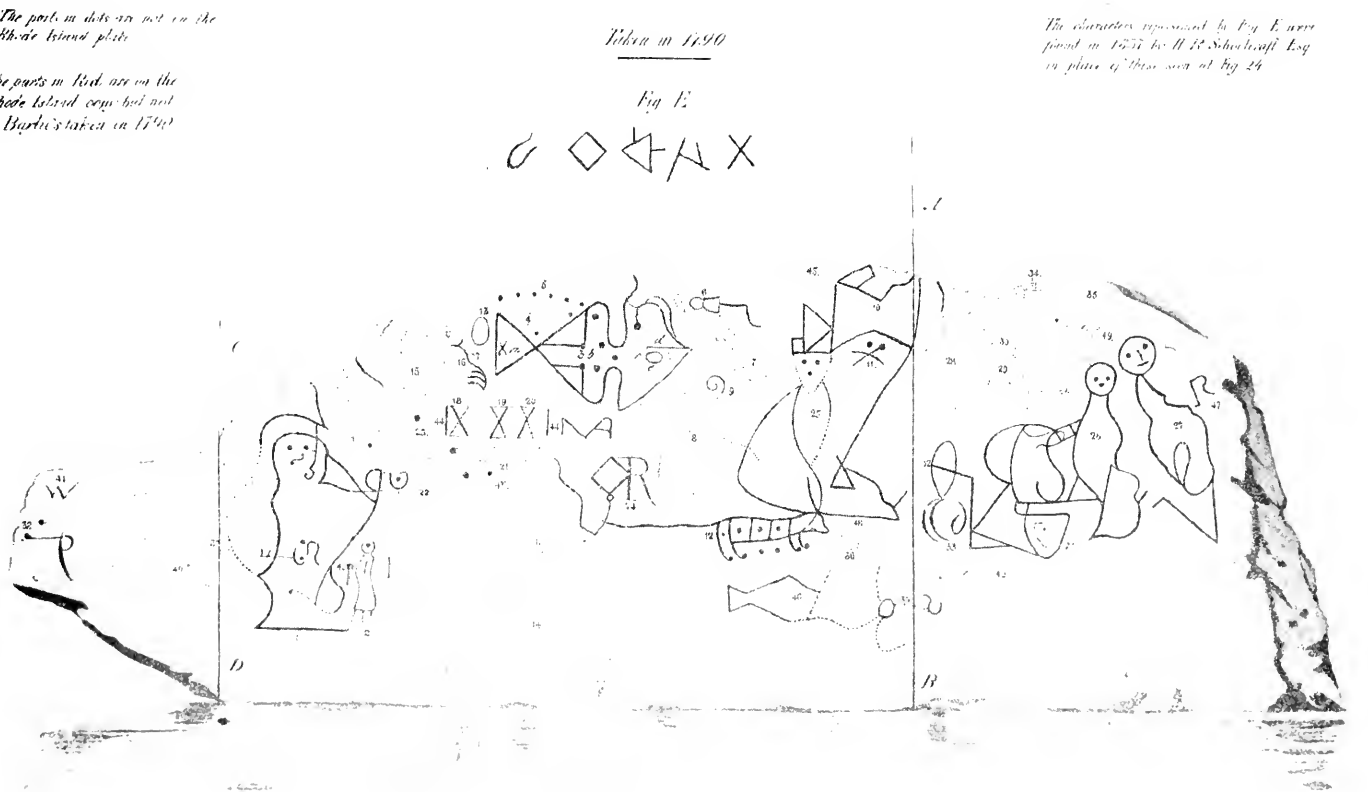
Present Status of Question as to Location of Vinland

But the absence of still existent monuments does not in the least degree invalidate the main story of the sagas. John Fiske rightly said: "The only discredit which has been thrown upon the story of the Vinland voyages, in the eyes either of scholars or of the general public has arisen from the eager credulity with which ingenious antiquarians have now and then tried to prove more than facts will warrant." We can cheerfully reject this theory about the rock whose complicated history, more remarkable than the rock itself, we are studying. But it is impossible to have searched minutely for all discoverable discussions of the rock without having read much about the voyages to Vinland and Hop, and wondering where after all these places may have been. Our researches, centered on an entirely dif-

[1] The evidence for all here mentioned is examined, apparently authoritatively, in no. 471. See also no. 496.

ferent though interweaving question, have not rendered us competent to utter an expert opinion in this matter; but they have made it possible to say a brief word concerning the opinions expressed by others. For fifty years after the appearance of Antiquitates Americanæ, opinion was almost equally divided between the followers and the opponents of Rafn's views. Out of more than a hundred persons who wrote on the subject, and whom I have consulted in order to obtain a well-founded idea as to how the Dighton Rock story was greeted, about 46 per cent were confident that he had solved the problem correctly, while 11 per cent more accepted his localities without sharing his deductions concerning Dighton Rock. Among them all, however, there was hardly another one who supported the opinion so long defended by Bancroft, that the sagas gave no assurance that the Northmen ever discovered the continent of America. If we accept the almost unquestioned belief that they did land somewhere on American shores, the most helpful indications as to how far south they penetrated are furnished by vague sailing directions, a crude observation as to the length of day, and statements concerning useful plants that they found. As to the latter, so long as it was believed that their *vinber* were grapes, their self-sown *hveiti* Indian corn, and their *mösur* wood, maple or the like, the probabilities seemed to most critical students strongly in favor of New England. But in 1887 there appeared two books which ultimately were strongly influential in altering the reading of the evidence. Gustav Storm [1] showed that neither the distribution of the grape, nor the identification of the other plants, nor calculations as to length of day, nor any other observations made in the sagas, compel a belief that Vinland lay farther south than about 49° north latitude, and that it certainly could not be farther north. Nova Scotia seemed to him its most probable location. In the same year Garrick Mallery, by publication of his Pictographs of the North American Indians, greatly extended an already considerable knowledge of the extent to which the Indians, throughout widely separated areas, had made pictures and markings upon rocks, in many cases not unsimilar to the "hieroglyphs" on Dighton Rock, and thus furnished stronger foundation than had before existed for the contention that the latter need be ascribed to no

[1] Studien over Vinlandsreiserne, published in English in Mémoires de la Société Royale des Antiquaires du Nord, 1888, pp. 307–370.



DRAWING OF ALLEGED ROMAN LETTERS (FIG E., 1847; AND COMBINATION OF THE DRAWINGS OF 1789 AND 1837 BY HENRY R. SCHOOLCRAFT, 1851

FROM SCHOOLCRAFT'S HISTORY OF THE INDIAN TRIBES, 1851, I, PLATE 96. ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

other source. Doubtless also Justin Winsor's critical study of the literature of pre-Columbian explorations contributed largely to the decisive rejection of a New England Vinland. The influence of these writings, naturally, only slowly became evident in the literature of the Norse voyages. Of about thirty discussions in my list between 1887 and 1900, we find that between forty and fifty per cent are still expounding Rafn's views. But since 1900 there has been a marked change. Of thirty references to the subject that we find recorded in our notes, only four very minor and negligible ones admit the possibility that Dighton Rock may have been a Norse record; only three others, without accepting the rock, believe that Vinland lay so far south. The remainder, nearly eighty per cent of all, either place Vinland farther north or make no attempt to determine its exact location. The most important recent contributions may well receive a moment's notice. In 1910, Fernald contended that *vinber* was probably mountain cranberry (*Vaccinium Vitis-Idaea*), *hveiti* the strand wheat (*Elymus arenarius*), and *mösur* the canoe birch (*Betula alba*), and hence that Vinland was probably in Labrador or along the Lower St. Lawrence River.[1] Babcock, examining evidence that the coast of New England has steadily subsided since glacial times and deducing the changes in coastal scenery that must have occurred since the year 1000, believes that "thus far no other Hop has been suggested which seems more plausible than Mount Hope Bay," but that Leif's booths were in southeastern Massachusetts. Hovgaard, once Commander in the Royal Danish Navy, comes to the conclusion that Leif reached Cape Cod, but that Thorfinn sailed no farther south than Newfoundland. Both Babcock and Hovgaard reject Fernald's interpretation of *vinber*, believing that it means grapes. Yet comparatively few others among recent authorities locate Vinland or any part of it farther south than Nova Scotia. The latest book of all on the subject, whose argument cannot henceforward be overlooked, is by Dr. Andrew Fossum of Park Region Luther College in Minnesota. Instead of rejecting one or the other of the two partly conflicting sagas of the Vinland voyage, as most writers do, he contends that each of them in its main features is authentic, the one as correctly relating the adventures of the family of Eric, the other

[1] M. L. Fernald, Notes on the plants of Wineland the Good, in Rhodora, xii. 17–38.

those of Thorfinn. Then, making a minute study of sailing directions and descriptions of scenery, and believing that other indications are in accord with his results, he seems to establish conclusively the fact that Leif's Vinland and Thorfinn's Hop were different regions, and very plausibly locates the former on the Lower St. Lawrence River and the latter somewhere on the east coast of Newfoundland.

Discussions of the Norse Theory of the Rock

Accustomed as we now are to accepting the fact that not only the Northmen, but perhaps voyagers on many other unprovable occasions saw the shores of America before Columbus did, it is hard to realize what a tremendous impression was made by the appearance of the Antiquitates Americanæ. Edward Everett wrote, immediately on receiving it: "This is a work of great interest. It has long been expected with impatience."[1] Higginson tells us: "I can well remember, as a boy, the excitement produced among the Harvard professors when the ponderous volume made its appearance upon the library table. . . . To tell the tale in its present form gives very little impression of the startling surprise with which it came before the community of scholars nearly half a century ago."[2] Wilson says: "The year 1837 may be regarded as marking an epoch in the history of Ante-Columbian research. The issue in that year of the Antiquitates Americanæ produced a revolution, alike in the form and the reception of illustrations of ante-Columbian American history."[3] The diary of Edward Everett Hale[4] interestingly revives for us the daily atmosphere and setting of the time when it appeared.

The book immediately, and for long after, was discussed in numerous reviews and magazines. Rafn's historical account in English was republished at least twenty times in eleven different languages. Lectures on the subject were delivered by men of prominence like Governor Edward Everett, A. H. Everett, and George Folsom, as well as by others less well known. Leading scholars and historians took account of it, and only Irving and Bancroft were wholly hostile to Rafn's conclusions, of whom Irving later somewhat modified his opinion and Bancroft eventually withdrew opposition by omitting

[1] No. 158.
[2] No. 246.
[3] No. 494.
[4] Nos. 214, 215, 216.

from his History any reference to the subject. The story of the sagas was retold in a more compact form by several writers.[1]

Such was the immediate effect of the book. With the content of the many discussions and controversies which it has inspired since then, we cannot further concern ourselves, except in so far as they involve new features in the unfolding of opinion about Dighton Rock. It is with regret that we accept the necessity of making this portion of our survey incomplete. We must restrict ourselves to mention of such as were especially influential, or made genuine contributions, or, through their inadequacy and unscholarly character, presented features of psychological interest or were responsible for the spread of erroneous ideas.

One of the best of early opinions was that expressed by Edward Everett in a review of Antiquitates and in a lecture before the Massachusetts Historical Society. He said that the copies of the inscription were too unlike to command entire confidence, declared that he remained wholly unconvinced of the truth of the Norse interpretation, and continued:

> The representations of the human figures and animals appear to us too rude for civilized artists in any age, erecting a public monument. They greatly resemble the figures which the Indians paint on the smooth side of their buffalo skins. The characters supposed to be numerals certainly resemble the Roman signs for unity and for ten; but every straight mark resembles I, and every cross resembles X. In the characters supposed to be Runes, we behold no resemblance to the only specimens of Runes we have ever seen; [2] there is certainly none to those found in Baffin's Bay and at Iggalikoi, and described in this volume. No one would hesitate in pronouncing the inscription to be an Indian work, we think, but for the circumstance that it is wrought on stone and seems to require the use of iron. This region was a metropolitan seat of the Indians, — the residence of the greatest chieftain known to the settlers of New England, — for half a century after the landing at

[1] The statements in this paragraph are condensed from nos. 150, 483.

[2] Considerable confusion in discussion has arisen from the habit, much indulged in, of calling the characters on Dighton Rock runes. The only runic characters claimed for this rock were the Sol, initial of Snorre, the doubtful Th, and the trident-like M, initial of madr. The letters forming the numerals, words and name most discussed were regarded by Magnusen and Rafn as Roman, or modified Roman forms. Hence the many criticisms founded on their lack of resemblance to runes were irrelevant.

Plymouth. In this time, the Indians were supplied with implements of iron from the colonists; why may it not have been wrought by Indians between 1620 and 1675? Or why may it not have been the work of some Anglo-American in that period? There are two or three other cases of curious inscriptions on rocks in New England, supposed to be of ancient and foreign origin, but afterwards found to be the work of whim, mischief or insanity. We do not, however, undertake to decide positively against the antiquity and civilized origin of the delineation on Dighton Rock.[1]

Alexander H. Everett believed that the Norse settlement on Mount Hope Bay was "beyond controversy," even though "throwing out of view all the evidence that may be regarded as in any way doubtful, such as . . . the inscription on Dighton Rock." [2] The Rev. A. B. Chapin declared that it was plain that the Indians did not inscribe the letters. Either, then, the Norse view is correct, or they are a forgery; and the latter view is altogether unlikely and improbable. Schoolcraft well expressed one of the early opinions adverse to Rafn's conclusions:

The event recorded is manifestly one of importance in Indian history. We consider the characters hieroglyphics of the Algic stamp. They are not Runic characters. Some of the principal resemblances to Runes, which appear in the latest copy of this inscription, are wholly unnoticed, in this shape, in the previous drawings. The letters R, I, N reversed, and X appear first on Kendall's drawing in 1807, when the country had been settled and cultivated, and the inscription gazed at for more than a hundred years. And we think it would be hazarding little to suppose that some idle boy, or more idle man, had superadded these English, or Roman characters, in sport. The mode of explanation adopted by Mr. Magnusen appears to be far-fetched, in some respects cabalistic, and throughout overstrained. . . . There could have been but little difficulty in making the impressions with sharp pieces of hornstone or common quartz. . . . Similar hieroglyphics [on the Housatonic and

[1] No. 158.

[2] No. 156. In 1864, E. E. Hale presented to the American Antiquarian Society the two representations of Dighton Rock which A. H. Everett used in his lectures. They are greatly enlarged copies, with some slight differences, of the Rhode Island version in Antiquitates. Each measures nearly 4 x 6 feet. The View is based on Bartlett's, but is an oil painting, executed for Mr. Everett by a certain "Bower" of Providence — doubtless the sign-painter, Samuel J. Bower, mentioned in the 1838 directory. See no. 211.

Allegheny] seem to indicate that the Indians had the means of accomplishing this species of inscription.[1]

How strongly the new theories appealed to the popular fancy is evidenced by the success of two uncritical books that appeared within a short time after the publication of the Antiquitates. In 1839 Joshua T. Smith published the Northmen in New England. It shows no originality aside from putting its exposition and defence of Rafn's views in a rather prolix and uninteresting dialogue form, of no present value except as a curiosity of the literature of the subject. A much more striking comment on popular taste is afforded by the long continued demand for a small treatise by the Rev. Asahel Davis, "Chaplain of the Senate of New York," as he is styled in some editions. Its first edition appeared apparently in 1838; the second edition, of 1839, is a small pamphlet of sixteen pages; its size gradually increased in successive editions to somewhat more than double that number. It is exceedingly ill-written, frequently ungrammatical, made up of choppy paragraphs of poorly selected and ill-balanced material taken with uncritical faith from the Bible, from reports such as that of an extinct race of men nine feet in height whose remains have been found in various states, and from Rafn. Yet ten editions had been called for by 1842, ten more within the next six years, and a thirtieth thousand is reported to have been issued in 1854.

Three utterances of the years 1840–1841, by men whose opinions carried weight, were perhaps as representative as any of the early arguments that were possible on either side, before wider and conclusive evidence had been assembled. In 1840 George Bancroft wrote:

> By unwarranted interpolations and bold distortions, in defiance of countless improbabilities, the plastic power of fancy transforms the rude etching into a Runic monument. . . . Calm observers, in the vicinity of the sculptured rock, see nothing in the design beyond the capacity of the red man of New England; and to one intimately acquainted with the skill and manners of the barbarians, the character of the drawing suggests its Algonquin origin. Scandinavians may have reached the shores of Labrador; the soil of the United States has not one vestige of their presence.[2]

[1] No. 398.

[2] No. 31.

Irving, in a review of Bancroft's History, wrote in 1841:

As for the far-famed Dighton Rock, he sets it down as so much moonshine, pronouncing the characters Algonquin. . . . We give up the Dighton Rock, that rock of offence to so many antiquaries, who may read in it the handwriting of the Phœnicians, Egyptians, or Scandinavians, quite as well as anything else. Indeed, the various *fac-similes* of it, made for the benefit of the learned, are so different from one another that, like Sir Hudibras, we may find in it "A leash of languages at once." We are agreed with our author that it is very good Algonquin.

On the opposing side, Beamish says all that could be said for a Norse Dighton Rock by referring to the "unanswerable arguments" of Professor Rafn, which, he claims, leave "no reasonable doubt as to its being the work of the Northmen." His work as a whole may have been worthy of the republication which it received, but the part wherein he comments on the rock shows a careless and inaccurate reading of his sources such as has often characterized the advocates of startling theories about this inscription. It was he who made the misquotation about the "Western parts of our Country" that has been already mentioned; and he also made the erroneous statement that "the combined letters which follow the numerals may be decyphered N.M. the initials of norronir menn (Northmen)." It will be remembered that the combined letters referred to, M, were actually read NAM by Magnusen and Rafn, and that it was in the next line below that they found the N-ship-M standing for seafaring Northmen.

Samuel Laing, some of whose remarks have already been quoted, devoted a dozen pages of sharp and for the most part justifiable criticism to the subject of Dighton Rock and the Newport windmill in his Heimskringla of 1844. Besides suggesting natural veining of the rock and deliberate fraud as possibilities, he justly says that the marks resembling letters may not be letters at all, but merely scratches, marks or initials, made at various times by various hands; and that interpretation may assign them to any people or period one may please to fancy. In the same year appeared the first German book, so far as I have observed, devoted to the Norse discoveries — by Karl H. Hermes. He gives a survey, based on Rafn, of copies and theories of Dighton Rock, accepts Rafn's reading of "Thorfinn," thinks the Portsmouth and Tiverton rocks may be Norse, rejects

the skeleton and the mill, and rejects also Rafn's reading of the numerals CXXXI. What the X's mean he is not sure. But he suggests that they may be the mystic X of the ancient church, the Greek sign of the cross, long used in Europe as a protection against evil influences; or possibly even Thor's hammer, used in dedicating anything to the gods. He concludes that the rock testifies indubitably and unambiguously to the presence of the Northmen. Paul Guillot's translation into French of Wheaton's History of the Northmen also appeared in 1844, and the translator in his notes accepted the inscription as having been proved to be Norse.

I. A. Blackwell, writing in 1847, thinks that Rafn "might have spared us a great deal of learned trifling" by omitting his dissertation on the inscribed rocks. "The Dighton Rock is covered with tortuous lines which may be made to mean any thing or nothing, and which after all the noise that has been made about them may probably be the handiwork of one of old Sachem Philip's Wampanoag Indians." Herein, we have seen, he was expressing the opinion of a great many of his predecessors. Thus far, however, there was but little more knowledge of Indian handiwork in the making of petroglyphs, that might serve as a sound basis for such opinions, than had been expressed by Kendall in 1807, depending largely on the observations of Dr. Stiles. The publication of the Ancient Monuments of the Mississippi Valley by E. G. Squier and E. H. Davis in 1847 gave new arguments to the anti-Norse faction; and in 1848 Squier minutely examined "the alleged monumental evidence of the discovery of America by the Northmen," and said that on comparing Dighton Rock with many known Indian petroglyphs, "the conclusion will be irresistible that this particular rock is a true Indian monument, and has no extraordinary significance." As to the Norse discoveries, "there is nothing which has tended so much to weaken the force of the arguments which have been advanced in support of that claim in the minds of those acquainted with the antiquities of our country, as the stress which has been laid on this rude inscription."

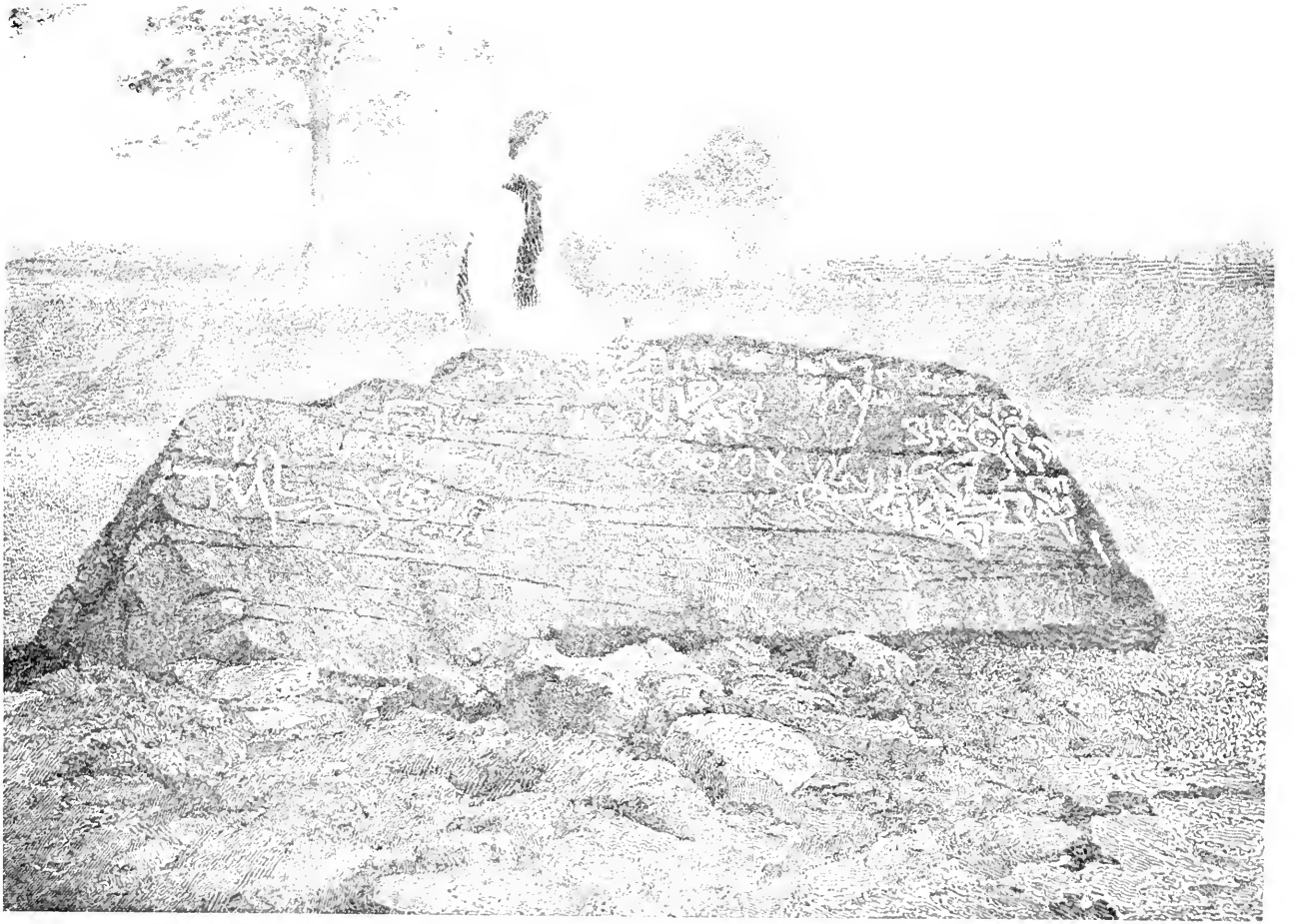
Argument by ridicule is often more effective than more direct attacks. This method found expression in the "Antiquarian hoax" of 1847 and in James Russell Lowell's caricature, which was not developed until 1862, but of which we find the first hint in 1848. The former appeared in the course of a newspaper controversy concern-

ing the Newport Stone Mill, the contributions to which were later assembled by C. T. Brooks.[1] With the utmost solemnity, and no indication that his statements were not to be taken seriously except the veiled one implied in his use of high-sounding and meaningless names and descriptions of non-existent incidents, a writer who signed himself "Antiquarian, Brown University" claimed that the characters were Furdo Argyto Dnostick, were made by an ancient race supposed to be Ægypto-Drosticks, and were discovered and described by the Northmen. His pompously worded absurdities were so mingled with statements of fact that they were at first sight not easy completely to expose. David Melville of Newport attempted the task, in language that was perhaps more intemperate and abusive than convincing, but finally settled the matter by writing to Rafn, who replied that the statements by Antiquarian were a downright fabrication, intended to mystify the public, and that the persons mentioned by him as supporting his claims were fictitious characters. Lowell's caricature of the Norse theory is amusing and should be read in full if one would follow exhaustively the fortunes of our rock. In his first series he mentions the rock by name, saying of it only that every fresh decipherer is enabled to educe a different meaning. In the second series he represents the Rev. Homer Wilbur as deeply interested in the apparently Runick characters on a relic recently discovered in North Jaalam. He solves its mystery by a complex process. First he writes down a hypothetical inscription based upon

[1] Nos. 15, 83, 310, 366. The hoax is said by C. E. Hammett, Jr. (Bibliography and Literature of Newport, 1887, p. 28) to have been due to two well known Newport wags. Their names, not given by Hammett, are disclosed in a letter written November 10, 1875, by Dr. David King (1812–1882) of Newport to Justin Winsor, then librarian of the Boston Public Library. In this letter, which is pasted into a copy of Brooks's pamphlet owned by the Library, Dr. King said:

"The above mentioned pamphlet was compiled for M^{r} Hammett by the Rev. Charles T. Brooks, late Pastor of the Unitarian Church of Newport. The remarks, introductory and conclusive, were written by Mr. Brooks.

"The letters from Brown University were written by W^{m} H. Cranston, and by Henry Tisdale of Newport. W^{m} H. Cranston was a Lawyer, and became, subsequently, Editor of the Daily News of Newport. He was, also, for several years Mayor of Newport. Henry Tisdale was a very bright intelligent man, a silversmith, and for several years a member of the City Council of Newport. The letters signed, one the Oldest Inhabitant, of Newport were written by David Melville, at one time Surveyor of the Customs of Newport. The lines by a Lady at p. 55, were composed by M^{rs} W^{m} L. Littlefield of this City."



EASTMAN DAGUERREOTYPE, 1853

FROM SCHOOLCRAFT'S HISTORY OF THE INDIAN TRIBES, 1854, IV, PLATE 14. ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

antecedent probabilities, and then proceeds to extract from the characters on the stone a meaning as nearly as possible conformed to this *a priori* product of his own ingenuity. He then reads the letters diagonally, and finally upside down, each time confirming his interpretation. This convinces him that he has read it correctly as a record of the fact that a certain Bjarna here first drew smoke through a reed stem, and that this was a proof of the ante-Columbian discovery of America by the Northmen. Lowell meant it, of course, only as pure fun and good natured satire; but by a curious dispensation of Providence that has decreed that Dighton Rock's dim tracings should incite every variety and method of interpretation that can be devised by human ingenuity, — whether scientifically calm and sound, or the product of seriously taken imaginings, or even such as may be due to positively paranoiac mental processes, — the satire was also an unintended prophecy. We shall find one of the characters in our drama in very recent times, extracting from the inscription in all seriousness a number of readings, all of them different yet all of them true, and arriving at one of them by turning the inscription upside down!

We have assembled now practically all of the typical arguments on either side. For the Norse hypothesis there has really never been anything to say except to express a faith that Rafn was right. On the other side, apart from presentation of a rival theory, or from constantly growing knowledge of the details of Indian customs and workmanship, to examination of which we shall turn shortly, there was little to do except to point out the inadequacies of the evidence in favor of Scandinavian artists. In order to put this constantly recurring and wholly sound argument once more in new words, we will make a final quotation, this time from Bowen's review of Schoolcraft:

> Detached portions of it may now seem meaningless — or alphabetic, which amounts to the same thing; and these portions may naturally seem Runic to an imaginative northern antiquary, or Sanscrit to an Oriental one. A little group of these unmeaning and half-effaced scrawls, which can be construed, at most, into half a dozen alphabetic characters, is a very narrow basis to erect a theory upon.

Though we must now take leave of Thorfinn and his 151 companions, his Skrellings and his terror-inspiring bull, yet the debate for and against him does not historically cease at this last date from

which we choose to quote. Numerous champions possessed of well-known names have arisen since then, and numerous equally well-known opponents. There is constant interest and occasional humor awaiting anyone who may wish to follow the controversy in all of its successive phases. For the aid and comfort of such as may be tempted to the performance of this task, a few discussions not yet referred to may be mentioned here in a footnote, out of the large number that have taken place. These, at least, should not be overlooked.[1]

As a final word, we may recall how strongly this theory of the rock has appealed to the imagination, and how many instances we have taken notice of wherein the exercise of this faculty has tempted to an expression of opinion many who were utterly unequipped in knowledge or judgment to say anything about it worth printing, and has led astray others better equipped into the adoption of an unscientific attitude on the subject. It is not surprising to realize, therefore, that the romance and fascination of this theme have stirred the ardor of a number of poets. Longfellow felt the inspiration. Sinding has already been quoted. John Hay made a humorous allusion to the difficulty of the "Dighton runes" in his class-day poem, Erato, in 1858. Sidney Lanier accepted the truth of Rafn's story in his Psalm of the West:

> Then Leif, bold son of Eric the Red,
> To the South of the West doth flee —
> Past slaty Helluland is sped,
> Past Markland's woody lea,
> Till round about fair Vinland's head,
> Where Taunton helps the sea, . . .
> They lift the Leifsbooth's hasty walls
> They stride about the land.

[1] (A) Favorable to Norse origin of inscription: Lossing (in 1850–52 suggested that the inscription was the record of a battle with Indians made by Scandinavians acquainted with and using Phœnician letters, but in 1876 stated that the Norsemen left no traces, except the tower at Newport), Hosmer, Anderson (1874, but in 1907 was "hospitably disposed" to Horsford's location of Vinland), Goodrich, Bodfish, Gagnon, Henrici, Neukomm.

(B) Favorable to Rafn's localities at least approximately, but reject Norse character of inscription: De Costa, Horsford, Goodwin, De Roo.

(C) Unfavorable to Rafn's localities and Norse inscription: Cabot, Haven, Wilson, C. R. Hale, Gaffarel, Lodge, Slafter, Higginson, McLean, Reeves, Power, Fiske, Baxter (1893), Ruge, Fischer, Avery, Vignaud.

(D) Bibliographical and critical: Watson, Winsor, Hermannsson.

And another of America's well-loved singers made allusion to a rival "Northman's Written Rock" in his Double-headed Snake of Newbury, and devoted an entire poem to The Norsemen and their supposed visit to New England, a few of whose appreciative lines may well close this portion of our history:

> My spirit bows in gratitude
> Before the Giver of all good,
> Who fashioned so the human mind
> That, from the waste of Time behind,
> A simple stone, or mound of earth,
> Can summon the departed forth;
> Quicken the Past to life again,
> The Present lose in what hath been,
> And in their primal freshness show
> The buried forms of long ago.[1]

Gravier's Variant of the Norse Theory, 1874

Although preserving many of the essential features of Rafn's treatment, the translation offered by Gabriel Gravier in 1874 possesses enough of novelty to need separate mention. The author gives a fairly good survey of earlier opinions, and reproduces Rafn's version of the Rhode Island Historical Society's drawing. His originality consists largely in asserting that when Thorfinn sailed from Straumfjord he left there twenty men and consequently, since nine others had gone off with Thorhall, had but 131 with him at Hop. The inscription is so read as to give evidence of this. At the extreme left of the drawing is seen the number XX, followed by a long wavy descending line which he regards as the rune *kaun*, and below these a P-like character, which he interprets as the Icelandic *thau*, signifying a ship. The *kaun* means "enflure," a dwelling at the foot of a hill; and its irregular prolongation indicates the path that was followed between the ship and the dwelling. Thus are indicated the conditions at Straumfjord. The CXXXI has its usual significance, instead of the forced meaning of 151 which Rafn assigned to it. The next following character, ᛗ, is accepted, in accordance with its interpretation by Magnusen and Rafn, as being a monogrammatic NAM, meaning "occupation of a country." Gravier naturally fails to dis-

[1] Whittier, Complete Poetical Works (1894), pp. 9–11.

cover Magnusen's "Norse seamen," since that occurs only on the Baylies drawing. In its place, he takes the inverted Y which follows the ᛘ as the rune *madr*, meaning men. The *thau* of the name Thorfinn he thinks has been effaced by rain and tide, and for the rest of the name he accepts Rafn's version. The human figures toward the left are Gudrida and Snorre, the latter confirmed by the neighboring rune *sol*, in accordance with Rafn's belief. The animal is the famous bull. The two personages at the right, however, are not Skrellings, but Thorfinn Karlsefne and his friend Snorre Thorbrandson.

Instead of one Norse reading, therefore, there have been three more or less differing ones suggested. Their general purport is very similar. Although Magnusen's and Rafn's differ markedly only in the interpretation of the OR, yet all three wholly agree only in the meaning assigned to the monogrammatic ᛘ, and to the figures of Gudrida and her son. Gravier's version made little impression, having been noticed by only a few reviewers and other writers.[1]

Indian Theory

Side by side with this Norse theory there developed, with increasing detail and growing confidence, the opinion that the inscription was wrought by no others than the aboriginal inhabitants of the country. It may seem strange that this, the most natural view of all, should not have prevailed from the first. In fact, it had a few supporters[2] as well as many opponents in the periods surveyed in our earlier papers; and some of the reasons advanced on either side have been there summarized.[3] But, as Higginson remarked in 1882, "so long as men believed with Dr. Webb that 'nowhere throughout our widespread domain is a single instance of their having recorded their deeds or history on stone,' it was quite natural to look to some unknown race for the origin of this single inscription."

This, however, was not the only reason advanced by Dr. Webb for his disbelief in the responsibility of the Indians. In his letter of

[1] One of these quotes M. Madier de Montjau as author of the paper; whereas this gentleman did nothing more than "analyze" the paper by Gravier at the Congress.

[2] Washington, Kendall, Davis: see our Publications, xix. 81, 104, 115.

[3] xviii. 235, 238, 239, xix. 105, 109, 111, 147.

September 22, 1830, of which an abstract has already been given, we find the following statement of his opinion:

In the Western parts of our Country may still be seen numerous and extensive mounds, similar to the tumuli met with in Scandinavia, Tartary and Russia; also the remains of Fortifications, that must have required for their construction, a degree of industry, labour and skill, as well as an advancement in the Arts, that never characterized any of the Indian tribes: Various articles of Pottery are found in them, with the method of manufacturing which they were entirely unacquainted. But, above all, many rocks, inscribed with unknown characters, apparently of very ancient origin, have been discovered, scattered through different parts of the Country: Rocks, the constituent parts of which are such as to render it almost impossible to engrave on them such writings, without the aid of Iron, or other hard metallic instruments. The Indians were ignorant of the existence of these rocks, and the manner of working with Iron they learned of the Europeans after the settlement of the Country by the English. . . . No one, who examines attentively the workmanship [of Dighton Rock], will believe it to have been done by the Indians. Moreover, it is a well attested fact, that no where, throughout our widespread domain, is a single instance of their recording or having recorded their deeds or history, on Stone.[1]

Webb still held to this belief nearly twenty-five years later, although in the meantime he had himself seen many "marked rocks" on the Mexican border.[2] "A popular error, once started on its career, is as hard to kill as a cat," is the way in which John Fiske expressed his view of the situation. How the error has been killed, and the Indians proved entirely capable of having made the Dighton petroglyph, we have now to trace.

George Catlin made one of the earliest definite contributions. Somewhat simplified and condensed, this is his statement:

I have been unable to find anything like a system of hieroglyphic writing amongst them; yet their picture-writings on the rocks and their robes approach somewhat toward it. Of the former, I have seen a vast many in the course of my travels; and I have satisfied myself that they are generally merely the totems or symbolic names, such as birds, beasts, or reptiles, of Indians who have visited these places and, from a feeling of vanity, recorded their names as white men are in the habit of do-

[1] No. 476.

[2] No. 482.

ing at watering places. Many of these have recently been ascribed to the Northmen. I might have subscribed to such a theory, had I not seen the Indians at work recording their totems amongst those of more ancient dates; which convinced me that they had been progressively made, at different ages, and without any system that could be called hieroglyphic writing.

In the same year Alexander W. Bradford discussed ancient remains in the United States, including many rock inscriptions. With corroborative quotations from Lafitau and Charlevoix, he explains how Indians often paint on bark or blazed trees marks or pictures which, like heraldic devices, are symbolic of themselves personally, of their tribe and nation, of their actions and achievements; and that these are often identical with the designs painted on their own faces and bodies. They also use mnemonic symbols to aid in remembering their songs. Bradford did not mention Dighton Rock, even as indirectly as Catlin did; but we need to have his suggestions in mind.

An important extension of knowledge in regard to Indian petroglyphs was due to the work of Squier between 1846 and 1860. The earliest evidence of his interest in Dighton Rock is furnished by his unpublished letters to Bartlett.[1] In the course of one of them he mentions it, and says of other sculptured rocks that he is investigating: "There will be no difficulty in making German or Runic, or Latin, or Choctaw out of them." His first publication, made in collaboration with E. H. Davis, was on the ancient monuments of the Mississippi Valley. In it he describes many pictographs, and remarks that those at Dighton, Tiverton, and Portsmouth "do not seem to differ materially in character" from these.[2] Shortly afterward, he devoted an entire paper to the refutation of the Norse claim to Dighton Rock.[3] He omitted any reference to the rock, but discussed the Fall River skeleton, in his Aboriginal Monuments of the State of New York, in 1849. He returned to the subject briefly and finally in a paper of 1860, wherein, speaking of the Runic, Hebrew, and Phœnician theories, he remarks: "Of late years, however, reveries of this kind have been generally discarded, and the investigations of our monuments conducted on more rational and scientific principles."[4]

[1] Nos. 433, 434.
[2] No. 435.
[3] No. 436.
[4] No. 437.

Squier's Ethnological Journal paper[1] is worthy of extended notice. After a minute description of Dighton Rock and the "fanciful speculations" which have been based upon it, he remarks that if it should be found that the rock —

coincides in position with a large number of similar monuments in various parts of the country, which bear inscriptions, not only similar, but identical in style and workmanship; that some of these are known to have been inscribed by the existing Indian tribes, since the period of the commencement of European intercourse, and that it was and still is a common practice among the Indians to delineate on trees and rocks rude outline pictures commemorative of the dead, or of some extraordinary event, as the conclusion of a treaty, or the termination of a successful hunting or martial expedition; then the conclusion will be irresistible that this particular rock is a true Indian monument, and has no extraordinary significance.

Numerous examples are mentioned, occurring usually, if not always, in positions where they would be most likely to attract the attention of individuals passing in canoes, or in the vicinity of old Indian trails or war-paths. Compared with Dighton Rock, —

A careful personal examination enables us to say that in style and workmanship they are indistinguishable. . . . The rocks bear outline figures of men and women, of animals of various kinds, tracks of birds and beasts, besides a multitude of lines and dots, which might easily be converted into inscriptions in any alphabet and language desired. . . . That the Indian nations of North America possessed no true hieroglyphical system seems very well established. They had, however, a method of representation closely allied to it, which has with great propriety been denominated "picture-writing." By grouping figures of men and animals, and other natural objects, in connexion with certain conventional signs, they were able to convey to each other simple ideas, record events, and transmit intelligence. The scope of this representation was, of course, extremely limited.

He mentions the totems of tribes and individuals, and quotes supporting testimony from Heckewelder, Loskiel, Hunter, Catlin and others. All of the sculptured rocks, he continues, —

are clearly within the capabilities of the Indian tribes, by whom they were doubtless inscribed. Their tools, though rude, are, nevertheless,

[1] No. 436.

adequate to the chipping of nearly every variety of rock to the slight depth required in these rude memorials. The tough syenite hatchets which they used previous to European intercourse with them, and for some time thereafter, cut sandstone readily, and with little injury to the instruments themselves; and it is very likely that the graywacke of the Dighton Rock would yield more readily than is generally supposed to their continued application. Besides, a personal examination of these rocks enables us to say that the amount of labor expended upon the largest rock of the Guyandotte group, making proper allowance for the difference of material, is five-fold greater than that expended on the rock at Dighton. . . . The time, however, expended upon these rocks, in the process of inscribing them, is a matter of no consequence among a people who had so great an abundance to spare as the Indian. The labor expended in reducing to shape and polishing some of their hatchets and other implements of hornblende, greenstone, and kindred materials, was probably little less than that bestowed upon the most elaborate of the sculptured rocks.

There is, therefore, nothing in the position of the Dighton rock, or the markings which it bears, to distinguish it from numerous others in different localities. It exhibits a correspondence with them in all essential respects, not excepting the apparently arbitrary marks to which so much significance has been assigned. With slight additions and erasures here and there, and with small drafts on the fancy, it would be very easy to transform the unintelligible symbols upon the rocks of the Guyandotte into palpable records of European adventure, especially if tending to support an hypothesis in behalf of which something like national pride had been enlisted.

Although Schoolcraft expressed four differing opinions within the space of fifteen years, yet on the whole he helped materially toward progress in clearing the mystery of the rock. We are probably justified in accepting Mallery's judgment that Schoolcraft told the truth in substance, although with much exaggeration and coloring. It certainly applies well to his final attitude toward this inscription; for although the detailed translation that he advocated has no claim to acceptance, yet he exerted a wholesome influence in attributing it to Indian sources. Schoolcraft also has the distinction of being responsible for the production of the first published photographic representation of the rock.

In 1839, in a paper already quoted, Schoolcraft expressed opinions

SHOVE LITHOGRAPH, 1864

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

entirely hostile to the Norse theory, asserting that the characters on the rock are Indian hieroglyphics of the Algic stamp. At about the same time he sent to Rafn an account of a "Runic inscription," that of the stone found in the Grave Creek mound, now regarded as probably fraudulent.[1] On November 17, 1846, he delivered an address before the New York Historical Society, showing a then wavering opinion. Regarding Massachusetts and Rhode Island as plausible localities of the Norse discoveries, he deplored the insistence on "localities and monuments, which we are by no means sure ever had any connection with the early Scandinavian adventurers."[2] At a meeting of the same society on November 3, at his suggestion, a committee was appointed "to investigate the character and purport of the ancient pictorial inscription or symbolic figures of the (so called) Dighton Rock, with instructions to visit the same and report thereon to the Society," but there is no record that a report was ever submitted.[3] But Schoolcraft visited the rock in August, 1847, and made a drawing of such of its characters as were in the position where Rafn had imagined the name Thorfinn. His version differs considerably from any others, and to the writer seems to have no better claim to accuracy than they. It can be seen as Figure E of our Plate XXXV.

Meanwhile, in 1839, Schoolcraft had submitted to Chingwauk, a well-known Algonquin priest and chief and an expert in the reading of Indian picture-writings, the drawings of Baylies and of Rafn. Selecting the former only, Chingwauk had furnished him with a detailed translation of all of its parts, except the central characters. In 1851, Schoolcraft published the first volume of his History of the Indian Tribes, in which he devoted over a dozen pages to a description of Dighton Rock and a presentation of this new reading.[4] It was accompanied by a plate reproducing the Baylies drawing of 1789, to which a few characters from Rafn's version of the 1834 drawing had been added;[5] and by a second plate, which he called a synopsis of the Assonet Inscription, displaying the several figures and characters detached from one another and arranged in separate compart-

[1] Mémoires de la Société Royale des Antiquaires du Nord, 1840–1844, 119–127. For a cautious verdict on this tablet, see Hodge's Handbook of American Indians, i. 506.

[2] No. 399.

[3] No. 336.

[4] No. 401.

[5] Plate XXXV.

ments of a square. On each plate he includes a separate figure, showing his own rendering of the central characters. We shall postpone for separate treatment the interpretation by Chingwauk, and present here only a much condensed account of Schoolcraft's own conclusions:

That America was visited early in the tenth century by the adventurous Northmen is generally admitted. Their Vinland has been shown, with much probability, to have comprised the present area of Massachusetts and Rhode Island. But the Assonet monument has been misinterpreted. Two distinct and separate inscriptions appear on it, of which it is evident that the Icelandic is the most ancient. The central space which it occupies could not have been left, if the face of the rock had previously been occupied by the Indian or pictographic part. The want of European symbols — such as hats, swords, etc. — connected with the figures representing the defeated enemy makes it hardly probable that this is a record of the defeat of the Northmen by the Algonquins; yet it is possible. The inscription was more likely, as is shown by Chingwauk, a triumph of native against native.

More importance has been attached to the Dighton Rock inscription, perhaps, than its value in our local antiquities merits. There is no object of admitted antiquity, purporting to bear antique testimony from an unknown period, which has elicited the same amount of historical interest, foreign and domestic, as the apparently mixed, and, to some extent, unread inscription of the Dighton Rock.

The rock was visited in August, 1847, in execution of the instructions of the New York Historical Society. Observation was rendered somewhat unsatisfactory, because of a light marine scum deposited by the water on the rock's surface. It was evident, under all the difficulties of tidal deposit and obscure figures, that there were two diverse and wholly distinct characters employed, namely, an Algonquin and an Icelandic inscription. No copy of it, answering the highest requisites of exactitude, has, in my opinion, appeared. The principles of lithological inscription, as they have been developed in ancient Iceland, appear to me to sanction the reference of the upper line of the foreign inscription to the hardy adventurous Northmen. Thus read, the interpretation of this part of the inscription furnished by Mr. Magnusen, appears to be fully sustained. Put in modern characters, it is this: CXXXI men. The inscription below is manifestly either the name of the person or the nation that accomplished this enterprise.

And here it must be confessed, my observation did not enable me to find the expected name of "Thorfinn." The figure assumed to stand

for the letters Th. is some feet distant from its point of construed connection, and several other pictographic figures intervene. The figures succeeding the ancient O cannot, by any ingenuity, be construed to stand for an F, I, or N. The terminal letter is clearly an X, or the figure ten. The intervening lines are all angular, and in this respect have a Runic or Celtic aspect. So far as they could, by great care, be drawn, they are exhibited in the Plates. With respect to the characters which should be inserted after the letters OR, as they appear in the drawings [of Baylies and Rafn], we have felt much hesitancy. There is doubtless something to be allowed for tidal deposit, for the obscuration of time, and for the want of a proper incidence of light. But with every allowance of this kind, and with a persuasion that this part of the inscription is due to the Northmen, it did not appear that the characters usually inserted could be assigned to fill this space. Nor did it appear that the letter R could be recognized. It is certain that the penultimate character is an X, or less probably the cardinal number 10. Of the intermediate characters, no positive determination can be made of the alphabetic value. Without doubt, the archæologist is here to look for the NAME of either the leader of the party, or of the nation, or tribe, to which the adventurers belonged. A careful and scientific examination of the subject, with full means and ample time, is invited. . . . Nothing is more demonstrable than that whatever has emanated in the graphic or inscriptive art, on this continent, from the Red race, does not aspire above the simple art of pictography; and that wherever an alphabet of any kind is veritably discovered, it must have had a foreign origin.

This confidence that the central inscription was of Scandinavian, though unreadable, character, was of brief duration. In 1853, Captain Seth Eastman, of the United States Army, in pursuance of his task of supplying illustrations for Schoolcraft's volumes, secured a daguerreotype of the rock, probably not the first that was ever taken,[1] but nevertheless the earliest photographic reproduction of the inscription that has been preserved. The circumstances of its production will be described in a later connection. After seeing it, Schoolcraft, who reproduced it in the fourth volume of his work on the Indian Tribes,[2] came to his final conclusion concerning the inscription: "It is entirely Indian, and is executed in the symbolic

[1] See p. 379, below.

[2] No. 402. See our Plate XXXVI.

character which the Algonquins call Kekeewin, i. e., teachings. The fancied resemblances to old forms of the Roman letters or figures wholly disappear." This opinion he repeated in greater detail in 1860;[1] but his comments at that time can be presented better in connection with our later examination of Chingwauk's interpretation.

That the practice of picture-writing was of extremely wide extent among the Indians is repeatedly emphasized by Schoolcraft. Thomas Ewbank contributed to a spread of knowledge of this fact, and strongly cautioned "against an hypothesis, not more untenable than absurd — that of seeking to explain Indian characters by phonetic symbols they are fancied to resemble. . . . Why, there is hardly a tribal mark painted on the face of a savage," he exclaims, "or tattooed on his person, but the germ of some European or Oriental letter might be imagined in it. As well derive Indian totems from books of natural history, and insist that mocassins were imitations of our shoes and leggings of our stockings." Daniel G. Brinton also insisted that Dighton Rock presented only a specimen of a kind of writing that was common throughout the continent. "They are the rude and meaningless epitaphs of vanished generations."[2] And again:

> Some antiquarians regard all these pictographs as merely the amusement of idle hours, the meaningless products of the fancy of illiterate savages. But the great labor expended upon them and the care with which many of them are executed testify to a higher origin. They are undoubtedly the records of transactions deemed important, and were intended to perpetuate by enduring signs the memory of events or beliefs. . . . Archæologists are of the opinion that their differences [in different areas] are related to the various methods of sign-language or gesture-speech which prevailed among the early tribes.[3]

A life-long resident near the rock, an artist who often made paintings picturing its surface and surroundings, wrote well of it in 1883, and attributed it to the Indians. We need to quote only a few of his words, since they give us no new facts, but merely testify to the growth of this opinion in a neighborhood where proof of a foreign and ancient origin would naturally have been more welcome because of its seemingly greater importance:

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[1] No. 403.
[2] No. 75.
[3] No. 76.

In considering the diverse theories that have been advanced as to the genesis of the sculptured characters on this famous rock and the difficulty, if not the impossibility, of proving or disproving either of them, it would seem as if the genius of mystery were brooding over the spot, hiding with an impenetrable curtain the meaning of the semi-obliterated characters, and one recalls the inscription before the mysterious temple of Isis, "yesterday, today, forever, and no mortal hath lifted my veil." . . . Those who think the inscription merely an example of the rude pictographs of the Indians now meet with little opposition to their views.[1]

The adoption by a German writer [2] of influence of the "most natural and simple view, that we have here only a very ordinary Indian petroglyph," was a further step in the advance of this opinion. As to the figures resembling runes, — it would have been far simpler to regard the resemblance as due merely to accident; such "runes" can be seen on a great number of rock-markings all over the world.

The conclusion thus definitely established by this time was well expressed by J. W. Powell in 1890, though without reference by him to its application to Dighton Rock: "One of the safest conclusions reached in the study of North American Archaeology, is that graphic art on bark, bone, shell or stone never reached a higher stage than simple picture-making, in which no attempt was made to delineate form in three dimensions, and in which hieroglyphics never appear."[3] Shortly after this the memorable study by Mallery of the pictographs of the American Indians appeared in its final form.[4] In his preliminary paper he had already said of Dighton Rock: "It is merely a type of Algonkin rock-carving, not so interesting as many others." In the later discussion he notes its resemblance in character to many other Indian glyphs in various parts of the country — a resemblance which cannot fail to impress any one who impartially compares it with the many examples pictured in the book. His entire treatment of petroglyphs is of sufficient importance and interest to justify the presentation of some condensed extracts here, which may help in a final judgment concerning the one which is the object of our study:

Picture-writing is found in sustained vigor on the same continent where sign language has prevailed and has continued in active operation

[1] No. 414. [2] No. 12.
[3] Prehistoric Man in America, in Forum, 1890, viii. 502.
[4] Nos. 297, 298.

to an extent unknown in other parts of the world. These modes of expression are so correlated in their origin and development that neither can be studied to the best advantage without including the other. No doubt should exist that the picture-writings of the North American Indians were not made for mere pastime but have purpose and meaning. Their relegation to a trivial origin will be abandoned after a thorough knowledge of the labor and thought which frequently were necessary for their production. The old devices are substantially the same as the modern; and when Indians now make pictographs, it is with intention and care, seldom for mere amusement. They are not idle scrawls. The ideography and symbolism displayed in these devices present suggestive studies in psychology more interesting than the mere information or text contained in the pictures. It must be admitted that no hermeneutic key has been discovered applicable to American pictographs, whether ancient on stone or modern on bark, skins, linen or paper. Nor has any such key been found which unlocks the petroglyphs of any other people. The fanciful hypotheses which have been formed without corroboration, wholly from such works as remain, are now generally discarded. Drawings or paintings on rocks are distributed generally over the greater part of the territory of the United States. They are found wherever smooth surfaces of rock appear; often at waterfalls and other points on rivers and lakes favorable for fishing. Pictographs of the Algonquian type are frequent, extending from Nova Scotia to Pennsylvania, Ohio and West Virginia, and in isolated localities on the Mississippi river. Upon close study and comparison they show many features in common, and all present typical characters, sometimes undefined and complicated. The ordinary Indian stone implements were fully capable of producing them, as has been demonstrated by recent trial.

Some Indian writings serve a mnemonic purpose — as a pictorial reminder of words and songs known by heart. Their employment to designate tribes, groups within tribes, and individual persons has been the most frequent use to which they have been applied. No attempt should be made at symbolic interpretation, unless the symbolic nature of the particular characters is known. With certain exceptions, they were intended to be understood by all observers either as rude objective representations or as ideograms, often so imperfect as to require elucidation. They are often related to religious ceremonies or myths. Some of the characters were mere records of the visits of individuals. The personal equation affects drawings and paintings intended to be copies of them. The more ancient petroglyphs also require the aid of the

imagination to supply eroded lines. Travellers and explorers are seldom so conscientious as to publish an obscure copy of the obscure original. It is either made to appear distinct or is not furnished at all. Thorough knowledge of the historic tribes, especially of their sign language, will probably result in the interpretation of many petroglyphs. But this will not give much primary information about customs and concepts, though it may and does corroborate what has been obtained by other modes of investigation. It is not believed that much information of historical value will be obtained directly from their interpretation. The greater part of them are connected with their myths or with their everyday lives. It is however probable that others were intended to commemorate events, but the events, which to their authors were of moment, would be of little importance as history. Modern ones refer generally to some insignificant event.

If we accept the essential identity in character and origin of our Assonet inscription and those on numerous other rocks, then the remarks of W. J. Holland on certain petroglyphs in Pennsylvania are pertinent, and emphasize an estimate of their significance different from that of most of the authorities thus far quoted. These are on the Ohio river, and are submerged except at low water. "I wish to say that I have no idea that they embody historic records. I picture to myself a tribe of lazy Indians camping on the edge of the river, engaged in fishing and hunting, and amusing themselves in their rough way by depicting things on the smooth surface of the stone with a harder stone. They speak of an idle hour and the outgoing of the pictorial instinct which exists in all men. I cannot see anything more important than that."

Among the latest expressions of opinion by students of the Indians, now shared by all authorities of this class,[1] is the following by William H. Holmes: "The concensus of opinion among students of aboriginal art today is that the inscription is purely Indian, not differing in any essential respect from thousands of petroglyphic records (undecipherable save in so far as the pictures tell the story) scattered over the continent from the Atlantic to the Pacific." Similarly Cyrus Thomas said in 1907: "The general conclusion of students in later years, especially after Mallery's discussion, is that the inscription is the work of Indians and belongs to a type found in Pennsylvania

[1] See letter of Bushnell, 1915, in our Publications, xviii. 235.

and at points in the west." Thomas and other writers, in the same Handbook of the American Indians in which these remarks occur, discuss also other related topics which should be consulted.[1] A few extracts from these sources, stating facts to which we have not yet called attention, or emphasizing others of importance, will furnish our final quotations on this subject:

Petroglyphs give little aid to the study of aboriginal history, since they cannot be interpreted, save in rare cases where tradition has kept the significance alive (i. 75; by W. H. Holmes).

With the tribes north of Mexico the arts that may be comprehended under the term graphic are practically identical with the pictorial arts; that is to say, such as represent persons and things in a manner so realistic that the semblance of the original is not entirely lost. Graphic delineations may be (1) simply pictorial; that is, made to gratify the pictorial or esthetic impulse or fancy; (2) trivial, intended to excite mirth, as in caricature and the grotesque; (3) simply decorative, serving to embellish the person or object to which they are applied; (4) simply ideographic, standing for ideas to be expressed, recorded or conveyed; (5) denotive, including personal names and marks of ownership, distinction, direction, enumeration, etc.; and (6) symbolic, representing some religious, totemic, heraldic, or other occult concept. It is manifest, however, that in very many cases there must be uncertainty as to the motives prompting these graphic representations; and the significance attached to them, even where the tribes using them come directly under observation, is often difficult to determine (i. 504; by W. H. Holmes).

While it would perhaps be too much to say that there exists north of Mexico no tablet or other ancient article that contains other than a pictorial or pictographic record, it is safe to assert that no authentic specimen has yet been brought to public notice. Any object claimed to be of pre-Columbian age and showing hieroglyphic or other characters that denote a degree of culture higher than that of the known tribes, is to be viewed with suspicion (i. 610; by Gerard Fowke).

Significance is an essential element of pictographs, which are alike in that they all express thought, register a fact, or convey a message. They are closely connected with sign language. For carving upon hard substances, including cutting, pecking, scratching, and rubbing, a piece

[1] See especially articles on Archæology, Engraving, Graphic Art, Inscribed Tablets, Pictographs, Popular Fallacies, Sign Language, Tattooing, Totem.

of hard pointed stone, frequently perhaps an arrow-point, was an effective tool. From the earliest form of picture-writing, the imitative, the Indian had progressed so far as to frame his concepts ideographically, and even to express abstract ideas. Later, as skill was acquired, his figures became more and more conventionalized till in many cases all semblance of the original was lost, and the ideograph became a mere symbol. While the great body of Indian glyphs remained pure ideographs, symbols were by no means uncommonly employed, especially to express religious subjects. The form of picture-writing known as the petroglyph is of world-wide distribution and is common over most of North America. Our present knowledge of Indian petroglyphs does not justify the belief that they record events of great importance, and it would seem that the oft-expressed belief that a mine of information respecting the customs, origin, and migrations of ancient peoples is locked up in these generally indecipherable symbols must be abandoned. When interrogated, modern Indians often disclaim knowledge of or interest in the origin and significance of the petroglyphs. Beyond the fact that by habits of thought and training the Indian may be presumed to be in closer touch with the glyph maker than the more civilized investigator, the Indian is no better qualified to interpret petroglyphs than the latter, and in many respects, indeed, is far less qualified, even though the rock pictures may have been made by his forbears.

That, as a rule, petroglyphs are not mere idle scrawls made to gratify a fleeting whim, or pass an idle moment, is probably true, although sometimes they are made by children in play or as a pastime. Nevertheless their significance is more often local than general; they pertain to the individual rather than to the nation, and they record personal achievements and happenings more frequently than tribal histories; petroglyphs, too, are known often to be the records of the visits of individuals to certain places, sign-posts to indicate the presence of water or the direction of a trail, to give warning or to convey a message. However important such records may have seemed at the time, viewed historically they are of trivial import and, for the greater part, their interest perished with their originators. Many of them, however, especially in the southwestern United States, are known on the authority of their makers to possess a deeper significance, and to be connected with myths, rituals, and religious practices. Whatever the subjects recorded by Indian glyphs, whether more or less important, the picture signs and their symbolism were rarely part of a general system, unless perhaps among the Aztec and the Maya, but are of individual origin, are obscured by conventionalism, and require for their interpretation a

knowledge of their makers and of the customs and events of the times, which usually are wanting. In most cases only the writer and his intimate compeers possessed the key (ii. 242–245; by Henry W. Henshaw).

The great and indisputable result of research along these lines, the only ones which have yielded definite and lasting results in contributing to the interpretation of Dighton Rock, has been to establish clearly the Indian origin of most if not all of the lines and characters marked upon it. No other rock, of course, exactly duplicates its designs. But those now known, of unquestionably Indian workmanship, that are like it in character are exceedingly numerous. In some cases, even resemblance to particular figures has been noted. Thus, Catlin gives plates showing pictures of an animal very like that prominent on Dighton Rock. Similar human figures are found on plates in Schoolcraft, Squier, and Mallery. Characters resembling the square O, the M, X, I, and R may be found in the same sources. Without such approaches to exact duplication, however, a general resemblance is repeatedly evident, and these authorities point out such resemblances in connection with an impressive array of localities: New Mexico, the Mississippi valley, on the rivers Allegheny, Monongahela, Kanawha, Ohio, Guyandotte, Muskingum, Cumberland, Tennessee, Missouri, Susquehanna, on Lake Erie. Particularly close resemblance is evident in the case of the rocks at Smith's Ferry, Pennsylvania, pictured by Holland, and is claimed by Mallery for others in the same State, one near Millsboro, the Indian God rock near Franklin, the Big Indian rock and one at McCall's Ferry on the Susquehanna.

It clearly follows that the numerous objections urged from time to time against the possibility that the aborigines of the region were the carvers of the rock have been completely disposed of. Against the early view that no similar Indian monuments exist, that the occupation and the designs were incompatible with their customs or their powers, we now have a complete and convincing answer. To the plea that the Indians were ignorant of the existence or origin of this and other inscriptions, and hence could not possibly be its authors, we may call attention to the pertinent statement made in our last quotation, and may say with Tylor: "There is seldom a key to be had to the reading of rock-sculptures, which the natives generally

SEAGER'S DRAWING. 1864

FROM THE ORIGINAL IN THE POSSESSION OF THE AMERICAN ANTIQUARIAN SOCIETY. ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

say were done by the people long ago;"[1] and with Goodwin: "The Indians of New England had no traditions and legendary songs. Even the intelligent Massasoit knew nothing of his immediate predecessors." If it be urged that the Indians were too idle and lazy for such work, Mallery will tell us what patient and laborious tasks they executed, and Holland and others express the belief that it was by very reason of their idleness that the picture-making amusement was engaged in. And when the attempt is made, as usual, to clinch the unfavorable argument by claiming that they had no adequate tools, we learn on the authority of those who have personally tested it that the ordinary stone implements of the Indians sufficed;[2] and moreover, if metal instruments had to be conceded, there is no evidence that the work was done until after metal tools had been supplied to the native tribes.

This realization that without any doubt most of the characters, at least, are Indian pictographs, does not help materially toward discovering what information, if any, they were intended to record. Chingwauk made a translation, but no modern authorities regard it as worthy of credence. Many opinions have been advanced, not as to their exact translation, but as to their general significance. We have seen some of our authorities, early and recent, believing that they are meaningless scrawls and pictures, executed purely for amusement, or even accidental marks made in the process of sharpening arrow-heads. Others strongly urge that they were meant to record definite and important facts or events; though even so, there is no expectation that their translation would yield material of any historical importance. If they possess meaning, then we have suggestions that the event recorded may have been some important transaction, treaty, battle, or other event; or the depiction of hunting scenes. Some of the characters may be mnemonic reminders of events or of songs or formulæ, or symbols of myth and religion. Some may be totem-marks of tribe or individual, closely connected with similar designs painted on the face or body. Some may be English letters, initials of the names of Indians who had become familiar with the act of thus affixing signatures or marks to deeds. Some may be tally marks, and some may even represent a map of

[1] Early History of Mankind, 1878, chap. v, on Picture-Writing.

[2] See especially American Anthropologist, 1892, v. 165.

some locality. These are the most important suggestions that have been offered, and it is evident that in no such case would it ever be possible to translate genuinely any of them. Only if it were known that a particular formula was there mnemonically indicated, or a particular myth symbolized, or a particular event illustrated, or a particular individual's initial or totem or face-device inscribed, could we be sure that that was among the features of the record. Such procedure is manifestly not translation, but recognition of something already known as at least probably there. Whatever may be possible in the future, thus far not even a single item of such recognition has been established. The differing hypotheses as to the general nature of the characters need not be taken as mutually exclusive rivals. It is probable that instead of one connected record, the rock-surface preserves marks made on many different occasions and for different purposes. Most, if not all, of the suggestions offered may be equally applicable.

We have said that it is certain that most of the characters were made by Indians. Even the established presence of detached letters of the English alphabet would not necessarily indicate anything other than initials of Indians of colonial times. It is fair, however, to make one reservation. The many translations that we are assembling for their historical and psychological interest are all of them, we may be sure, mere pleasing flights of imagination, grown-ups' fairy-tales, without foundation in reality. No genuine word or message has ever yet been deciphered on the rock. Yet we must concede that the characters engraved there have been always so faint and obscure, even in the earliest days in which white men began to observe them, that no one can be sure of more than a small portion of the original lines. It is not impossible that sometime, through improvements in photography, or through the development of yet unknown methods of bringing to light old and invisible pressure-marks on the surface, much as careful manipulation may bring out successively the separate writings of a palimpsest, the now hidden tracings, if there be any, may be known. In such case, there might be found dates, names, words, or messages that would prove that other records were inscribed there besides those of the Indians. That is by no means a wholly remote possibility; for we shall mention in the end a very recent and wholly new suggestion along these lines. Yet unless and until some-

thing of that sort becomes conclusively established, we must not only reject all rival theories that have thus far been advocated, but concede that there is no reason yet presented for a belief that any part of the inscription is of other than Indian workmanship.

Indian Translation by Chingwauk, 1839

It is time now for us to return from these general considerations to the examination of particular translations and theories. We have traced the development of the two continuing and chief rivals, most seriously and widely held, — the Norse view and the Indian; and have found one of them continuously losing ground and the other growing and strengthening to complete certainty. They have not been, however, the only theories in the field, and the rest of them must now be described. First among them we will consider the reading by Chingwauk, which, although Indian in content, yet forms no part in the development of sound ideas in Indian interpretation but belongs rather in the class of purely fanciful speculations. The account of it will be abbreviated from Schoolcraft;[1] and reference to the numbers which he attached to his drawing will aid in identifying the portions of the inscription under discussion.

I will introduce an interpretation which was made by Chingwauk, a well-known Algonquin priest or Meda, at Michillimackinac, in 1839. He is well versed in the *Ke-kee-win,* or pictographic method of communicating ideas. He is the principal chief on the British side of the river at Sault St. Marie. He is quite intelligent in the history and traditions of the northern Indians, and particularly so of his own tribe. Naturally a man of a strong and sound, but uncultivated mind, he possesses powers of reflection beyond most of his people. He has also a good memory, and may be considered a learned man, in a tribe where learning is the result of memory, in retaining the accumulated stores of forest arts and forest lore, as derived from oral sources. He was one of the war-chiefs of his tribe, in the perilous era of 1812. He speaks his own language fluently, and is still regarded as one of the best orators of his tribe.

To him Schoolcraft submitted the plate in Antiquitates Americanæ containing the drawings of Baylies and of Rafn. Chingwauk

[1] Nos. 401, 403. Compare with Plate XXXV.

selected the former exclusively, and excluded from it the central characters, which he did not regard as belonging with the rest. It will be remembered that Schoolcraft himself at first considered them Scandinavian, but later changed his opinion. After scrutinizing the engraving, Chingwauk remarked: "It is Indian; it appears to me and my friend to be a *muz-zin-na-bik* (i. e., rock-writing). It relates to two nations." He then took the volume to his lodge in order to study it further, and on the following day gave the following interpretation:

All the figures to the left of the line AB relate to the acts and exploits of the chief represented by the key figure, Number 1, and all the devices to the right of it have reference to his enemies and their acts. The inscription relates to two nations. Both were Indian people. No. 1 represents an ancient prophet and war-captain. He records his exploits and prophetic arts. The lines or plumes from his head denote his power and character. No. 2 represents his sister. She has been his assistant and confidant in some of his prophetical arts. She is also the Boon of Success in the contemplated enterprise, and she is held out, as a gift, to the first man who shall strike, or touch a dead body in battle. No. 3 depicts the prophet's or seer's lodge. It has several divisions, appropriated to separate uses. Part *a* denotes the vapor-bath, or secret sweating lodge, marked by crossed war-clubs. The three dots, in the center of the apartment *b*, denote three large stones used for heating water to make steam, and are supposed to be endowed with magical virtues. The sacred apartment, *c*, from which oracular responses are made, contains a consecrated war-club, *d*, of ancient make, and a consecrated pole or balista, *e*.

No. 4 represents a ponderous war-club, consecrated for battle. No. 5, the semicircle of six dots, signifies so many moons, marking the time he devoted to perfect himself for the exploit, or actually consumed in its accomplishment. 6 is the symbol of a warrior's heart; 7, a dart; 8, the figure of an anomalous animal which probably appeared in his fasts to befriend him. 9 and 10 are unexplained. 11 represents the number 40. The dot above denotes skulls. 12 is the symbol of the principal war-chief of the expedition against the enemy. He led the attack. He bears the totemic device of the Pighoo, or northern lynx. 13 is the symbol of the sun. It is repeated three times in the inscription; once for the prophet's lodge, again for his sister, and again for the prophet himself, as his totem, or the heraldic device of his clan. 14 represents a

sea bird called MONG, or the loon. It is the prophet's name. 15 is a war-camp, the place of rendezvous, where the war-dance was celebrated before battle, and also the spot of reassembly on their triumphant return. 16 is an ensign, or skin flag, and 17 an instrument used in war ceremonies in honor of a victory, as in ceremoniously raising the flag, and placing it in rest after victory, to be left as a memento. 18, 19, and 20 are dead bodies, the number of men lost in the attack. 21 is a pipe of ancient construction ornamented with feathers; 22 a stone of prophecy; 23 unexplained; 24 without significance; and 25 a wooden idol, set up in the direction of the enemy's country, and within sight of the prophet's lodge.

The devices to the right of the line AB have relation, exclusively or chiefly, to warlike and prophetical incidents on the part of the enemy, represented by 26, 27. They are drawn without arms, to depict their fear and cowardice on the onset. They were paralyzed by the shock, and acted like men without hands. 28, 29 are decapitated men, probably chiefs or leaders. 30 is a belt of peace, denoting a negotiation or treaty. 31 is the enemy's prophet's lodge; 32, a bow bent, and pointed against the tribe of Mong, as a symbol of preparation for war and of proud boasting; 33, a symbol of doubt, or want of confidence in the enemy's prophet; 34, a lance pointing to the enemy, a symbol of boasting and preparation; 35, an ancient war-club.

The purport of the section to the left of the line CD appears doubtful. Most of the marks appear without meaning. It appears to be the territory of the Mong tribe. 39, 40 are villages and paths of this people or their confederates; 41 is Mong's village, or the chief location of the Assonets, being on the banks of a river. It may also represent a skin flag used in the war, and the dance of triumph.

Schoolcraft himself attempts to interpret a few of the figures left unexplained by Chingwauk: 43 denotes war-like implements; 47, a banner; 45, a headless enemy, the drawing of which from the 1837 version, he forgot to introduce on his combination plate. The number 23 he attached to one figure on this plate, but to another on his "synopsis," where it applies to the character M just to the right of the CXXXI, 44. The M-like part of this, and of figure 42, he wrongly says has been interpreted by Mr. Magnusen as an ancient anaglyph, standing for the word men. In reality, Magnusen considered it a monogram for NAM, while the runic letter that he interpreted as men was the right half of Schoolcraft's 21. We have

already made acquaintance with the latter's Scandinavian interpretations of a few remaining characters.

In 1860, Schoolcraft connected this interpretation by Chingwauk, made by him "with priestly skill in necromancy," with the battles and triumphs of the local Wampanoag Indians. He says there, in part:

The Pokanokets were descended from an ancient stock, and, it is believed, they established themselves on the peninsula, with the aid of their friends and allies, the Narragansetts and Pequots, after conquering the tribes which then held possession. Evidences of their ancient triumphs have, it is believed, been found in the rude and simple pictographs of the country. These simple historical memorials were more common among the hills and valleys of the country, when it was first occupied, than they are at the present day. On the Dighton rock, the amazement of the vanquished at the sudden assault of the victors, is symbolically depicted by their being deprived of both hands and arms, or the power of making any resistance. The name of the reigning chief of the tribe, is likewise described by a symbol to have been Mong, or the Loon, and his totem, the Sun. The name of Wampanoag, by which the Pokanokets were also designated, appears to denote the fact, that they were, from early times, the custodians of the imperial shell, or medal.

It is hardly to be wondered at, after this, that Mallery, though speaking in the main appreciatively of Schoolcraft, remarked that he was "tinctured with a fondness for the mysterious," and that interpretation by Indians must be received with caution; or that Cyrus Thomas says that "this Indian's explanation is considered doubtful." Acquainted as we now are with the fact that any one may with equal justification interpret any of the pictographic figures on the rock in whatever manner pleases his own prejudice and fancy, we can naturally allow no more weight to the priestly fancies and habits of thought of Chingwauk than to those of a Gebelin, a Hill, or a Magnusen. All of them are picturesque and of historical value, all of them illustrate instructive phases of psychology, but all of them are snares and delusions if taken as possible truths.

Libyan Theory of Jomard, 1839

An entirely new theory was advanced soon after the publication of the Antiquitates Americanæ, by Edme François Jomard, "prési-

dent de l'académie des inscriptions et belles-lettres de l'Institut." It was first expressed in a letter written in August, 1839, to Eugène A. Vail, "citoyen des États-Unis," and published by the latter, "without permission," in the following year. In 1845, Jomard related the circumstances and cited his earlier letter. He had been engaged for a long time, he said, in seeking traces of a dialect which he called the ancient Libyan, represented by the modern Berber, once universally spoken along the 80-day caravan route from Egypt to the Gates of Hercules. This was the common language of the caravans which, from before the time of Herodotus, engaged in the commerce of salt along the entire northern coast of Africa.

When I began to study the monument of Taunton, my surprise was great to recognize the analogy of its forms with the inscriptions of Fezzan and of the Atlas. I have never admitted the pretended derivation of American, Mexican or Peruvian monuments from India or from Egypt. What appears to me most probable is that the Africans of the Canaries, or even the Carthaginians, have been in contact with the Americans. Not only would the trade winds have carried them a thousand times to America, but they would also have been likely to have sought in this direction for riches such as the commerce of India and of China procured for the Asiatics. The inscription on the Taunton rock, although of a barbaric design, presents forms which are unmistakably like the Libyan characters. . . . The monument is evidently ancient.

Revivals of the Phœnician Theory: Onffroy de Thoron, 1889

Next after the Norse and the Indian theories, that of ancient Phœnician origin has possessed an appeal that has gained the largest number of adherents. We met with a number of them in the periods dealt with in our earlier papers. Among them we should have included Francis Baylies, born near the rock, son of one who had had a life-long interest in it, and himself devoted to historical research. He was among those who held that "the absence of any similar monument in North America, and the total ignorance of the natives as to its origin and design would seem to indicate in a manner too clear to admit of doubt, that we must look elsewhere for its authors." He does not definitely espouse the Phœnician view, but nevertheless he admits the possibility of its being true.

An article appeared in the Taunton Whig in 1839, strongly sup-

porting the responsibility of the Phœnicians. The editor of the paper remarked that it consisted of "extracts from a letter written by a gentleman in our vicinity." If this gentleman was not actually Joseph W. Moulton at least he used almost the exact arguments of the latter.[1] Besides presenting the reasons for his own belief, he is authority for the fact of the visit to the rock in "1798" of "M. Adel," which we have interpreted as meaning probably 1796 and M. Adet; and he claims to have seen the celebrated and elusive "bird" — which Moulton had not seen in 1824 — and also on the south end of the rock a number of marks, observed by none before, including three triangles resembling the Greek Delta, and "the rude outlines of the head and body of a man.[2] To find these figures much depends on the position of the sun; I think the afternoon is the most favorable time for an examination."

Another anonymous writer of 1841 was attracted by the same possibilities:

This mass of traditions convinces us that the Phœnicians, Egyptians, and Greeks, were acquainted from the remotest times with Atlantic islands, peopled by Atlantians or Cimbrians, and that these islands comprehended the Americas. . . . It would be too bold to draw an inference from the monument, apparently Punic, which was found some years ago in the forests behind Boston. It is possible that some Tyrians or Carthaginians, thrown by storms on these unknown coasts, uncertain if ever the same tracts might be again discovered, chose to leave this monument of their adventures. Of their further expeditions there is no trace. Nor do we know whether these adventurers returned, or what attraction the marshy feet of the American mountains held out to the avarice of the Phœnicians.[3]

Lossing expounded a sort of combination view about 1850:

When we remember that the Phœnicians were for many ages in the undisputed possession of the traffic of the Baltic, around which clus-

[1] See our Publications, xix. 122. I have found no indication that Moulton ever lived nearer to Taunton than Roslyn, Long Island.

[2] I doubt very much whether any marks exist on the south, or down-stream end of the rock. There are some, however, on the up-stream end, ordinarily wholly invisible, but on rare occasions in unusually favorable light appearing with great clearness; see below, p. 406. If these are the ones here meant, then this person is the third previous observer who has seen them. His description differs much from that of Dr. Stiles, but is reconcilable with the actual characters.

[3] No. 143.

tered the Scandinavian nations, and that Runic, or ancient German inscriptions, in Phœnician characters, have been discovered in abundance in all the countries formerly occupied by these nations, the inference is plainly correct, that the Scandinavians received their alphabet from the Phœnicians. . . . Is it not reasonable to infer that these Scandinavians, acquainted with the Phœnician alphabet, made a record of the battle upon the rock [at Dighton], by a mingling of alphabetical characters and pictorial hieroglyphics?

William Pidgeon believed that the rock at Dighton offered strong evidence of the presence of Phœnicians or their descendants on this continent. He also had faith in the presence in this country of authentic relics of Romans, Greeks, Persians, Egyptians, Danes and Hindoos. He is perhaps a rather late survival of a type of person so delightfully described by a reviewer of about the same time that it may relieve the monotony of our pages somewhat to quote him:

The learned have occupied themselves in tracing the physical migrations of particular races of men; . . . how our Punic friends, the Irish, quitting Asia, strayed to the green isle and thence, finally, shilelah in hand, to "the land of the free and the home of the brave"; how our uncles the Welsh peopled the upper Missouri and turned into Kickapoo Indians; in what manner our cousins the Norwegians settled New England and were the original Yankees; and how the pyramid-builders of Mexico and Yucatan, the Aztecs, were nothing in the world but the lineal progeny of the Lost Tribes of Israel, who, to our thinking, were no great loss anyhow, judged either by their previous behavior or by their manners when found again.[1]

The next advocate in order of time, Onffroy de Thoron, presented such an elaborate and sparkling gem that we shall reserve consideration of him to the last among this group. A paper written in 1890 by George M. Young of Boston shows that this gentleman, who claimed to be "compiling all material obtainable" but who derived his information apparently solely from Barber, possibly Schoolcraft, and Arnzen, inclined to the Phœnician theory. Rufus K. Sewall, vice-president of the Maine Historical Society, held that "Deighton Rock and Monhegan . . . are possible footprints not of Northern visits alone but of Phœnician adventure here." Herbert M. Sylvester

[1] "Notes on New Books," in National Intelligencer, September 13, 1848.

seems to concede the possibility of a Phœnician origin when, after describing this and the Norse theory and denying that it could have been due to the Indians, he remarks: "Its antiquity is more remote, possibly, than as yet has been accorded it." Finally, in a local newspaper of 1915,[1] there is given almost in its entirety the old exposition by Gebelin with a remark by the editor that the extract describes "a probable visit by the Phœnicians" to Dighton, that many now-a-days believe the inscription to be the work of Indians, and that the reader is left to draw his own conclusions.

As a fitting conclusion to our survey of these believers in the American commerce of the Phœnicians, we will now return to Onffroy de Thoron, Ancien Émir du Libau (1840). His book,[2] mentioned apparently by only one writer on our subject[3] and thus discovered only by rare good fortune, is of the extravagant type which is so refreshing when it is taken, not with the seriousness intended by the author, but in the spirit in which we read Gulliver's Travels. At the outset he tells us that he has discovered the fact of the triennial voyages of the fleets of Solomon and of Hiram to the river Amazon, where were the regions of Ophir, Tarschich and Parvaim, and whence the Phœnicians derived great wealth; and further, the primitive language, still living and spoken within the limits of the terrestrial Paradise — the Kichua language of Peru. Now he announces his third great discovery, to the effect that the Phœnicians made voyages to Haiti and also, taking a northerly route past Iceland and Greenland, marched southward by land, followed by other fragments of maritime and commercial people; and, as the centuries went by, their families were mingled with the autochthonous populations, which absorbed them, though their language still survives in Mexico under the name of Tsendal, and likewise their story of Votan, mysterious founder of the colonies and of the cult of the Serpent. Dighton Rock supplies a proof of these migrations.

He follows the Rafn version of the inscription, reproduced from Gravier. Its characters are not Norse, but Phœnician and Campanian. He displays apparently deep philological learning in tracing the local usage of each letter and the derivation and significance of each word that he recognizes. Into these ramifications we shall not follow him. Beginning with the marks on the breast of the bust at

[1] No. 261. [2] No. 342. [3] No. 183.

DAVIS-GARDNER STEREOSCOPIC VIEW, 1873

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

the left, — from which Gravier had omitted the horizontal line, thus leaving three separate characters — he identifies them, reading right to left, as the Phœnician letters *m*, *l*, *n*: *mâlôn*, equivalent to the sepulchral phrase "here lies." This *n* and this *m*, he says, are the characters which Magnusen accepted as meaning Northmen — a new error in placing the actual characters thus read by the much misunderstood runologist. The allegorical image at the right of the bust — the little Snorre of the Rafnites — represents a buried person, upon whom and by whose side tears are seen.

To follow the rest of his translation by aid of the drawing,[1] we must begin with the familiar CXXXIM line and continue it, trending upward, to the O equipped with a descending tail; and below, beginning with the hour-glass arrangement of the shoulder of the bust, proceed through the intervening characters to the end of Rafn's ORFINS. Reading from right to left, the tailed O is a *q*, the long curve an *n*, the square an *o*, and the triangle an *a*: *qanoa*. The inverted Y is *g*, the A, *d*: *gâd*. The rest of the M, an inverted V, is *g*, and the I is *l*: *gal*. Two X's form the word *theth*. The next X is again *th*, the gamma is *p*: *thop*. Passing to the rightward end of the line below, the S part of the terminal X is *sh*, the stroke that crosses it is *l*, and the rightward half of the N is again *l*: *shâlal*. The other half of the N is *l*, the I is *n*, the F is *g*, the R is *r*: *le-nâgar*. The diamond-shaped O is *o*, the curving line to the left of it is *n*, the dotted line descending from the latter is *g*: *oneg*. Then the dotted curve with its opening to the right is *l*, the diagonal stroke leftward from it is *g*, the curved line attached to the latter is *l*: *le-gâl*. The upper part of the last-named curve is *l*, the O beyond it is *o*, the hour-glass is *q*, and the stroke meeting its inner angle is *l*: *qal-lo*. The entire message is translated by its gifted decipherer into both Latin and French: "Invidiosus fortunae, ruinas dare feriendo spoliabat: Effusa est vita delicata sicut unda rapida" — "Envieux de la fortune, pour causer les ruines, il pillait en frappant: Sa vie voluptueuse s'est écoulée comme l'onde rapide." Since this turns out to be apparently the most puerile announcement that the old rock ever has been compelled to yield, the reader may study both of these versions in order to make out of them as much as he can. Taken in connection with the word on the bust, the buried person, and the tears, the whole

[1] Rafn's drawing, Plate XXXIV.

may be freely rendered: "Here lies one whom we mourn. Seeking to enrich himself, he fought, pillaged and laid waste. His luxurious life passed by like a rapid wave."

Judging from the transitional character of some of the letters used, the author concludes that the emigration from which this inscription is derived took place approximately at the time of the conquests of Alexander the Great, — which would assign to it a date not far from 330 B.C. He demands for his results a just and reasoned criticism, without distortion of his meanings; and the verdict may well be rendered in words which he himself used in passing judgment on the "inventions" of Rafn: "They are on a level with the fantastic translations which, every Friday, Messieurs Michael Bréal, Ernest Renan, Jules Oppert and Gaston Paris, professors in the College de France and members of the Institute (Inscriptions), gravely read before their silent auditors." In thus employing his own words to express judgment of himself, we are concerned only with the fact that he believed that the translations referred to were fantastic, and not at all with the question as to whether his opinion of them was a sound one.

A Roman Catholic Invocation

Buckingham Smith, who was an eager student of Mexican history and antiquities, suggested in 1863 a new type of interpretation of a portion of the inscription. In the midst of the emblems of the aborigines by which they are surrounded he finds a series of letters which he believes to be initials or cyphers used in the Catholic church for words of sacred significance. We are not told what characters of the rock were so taken; but there is practically no doubt that they were, as read by him from a single line of the Rafn drawing: I. XXX. I.M. I. This he interprets as meaning: Jesu Christo Santisimo Jesus Maria Josef. "Mr. Smith suggests that these inscriptions may possibly have been derived from Spanish missionaries who penetrated the country at a very early period, of whom no account has been transmitted; and refers to the stone found in Onondaga county, New York, which has upon it the figures 1520,[1] as perhaps determining the period of these memorials."

[1] For a cut of this stone see Squier's Aboriginal Monuments of the State of New York, 1849, Smithsonian Contributions to Knowledge, ii. 172, art. ix.

If the reader will examine the Hathaway photograph, Plate XXXII, he will discover that the line underneath the one used by Smith can easily be read: CORMX. Following Smith's method of procedure, he can readily expand this into (Sanctum) Cor Matris Christi, and claim that our missionary-inscriber was a member of a Congregation of the Sacred Heart earlier than the one now engaged in missionary labors under that name. Moreover, if he will search carefully, he may discover a date, closely approximating the one fixed by Smith. There is such a date clearly distinguishable in the photograph mentioned. The discovery of where and what it is may perhaps best be left for the present to the reader's own ingenuity, reserving its more serious consideration for a later purpose. Though we may not feel inclined to regard Buckingham Smith's suggestion as being any more entitled to acceptance than its many equally fanciful rivals, yet it seems worth while to realize that it can be more or less consistently amplified by these two further items, overlooked by him.

A Chinese Version: Lundy, 1883

Among the persons and peoples who have fallen under suspicion of having fabricated the stone document that we are examining, the Chinese, though vaguely hinted at, were never given serious consideration. At last, however, a keen modern detective followed out the clues to the final establishment of their guilt—at least to his own satisfaction. We are unable in his case to compare his translations with the characters transliterated and translated, as we have attempted to do in all previous cases when the author furnished the necessary information. In this case, we shall have to content ourselves with the results, without understanding how they were reached.

On March 1, 1883, the "Rev. John P. Lundy [1] made a communication" to the Numismatic and Antiquarian Society of Philadelphia "upon a remarkable fact which he had just discovered after long study, viz., that the Mongolian symbolism of writing was to be found

Squier accepts the stone as probably "a genuine remnant of antiquity;" so also apparently does Schoolcraft (no. 401, p. 109).

[1] John Patterson Lundy, Princeton, 1846; D.D. Andalusia College, 1869. Rector of Church of the Holy Apostles (Presbyterian) in New York, 1869 to 1875. Author of Monumental Christianity. Born 1823, died 1892.

on the rock-sculptures of Mexico and Central America, and that by the aid of the former the latter could be readily and easily deciphered; that these latter were evidently of Mongolian origin, and that he had interpreted some of the symbols in Stephen's *Yucatan* by means of Mongolian symbols." On April 5, he read an essay upon the Dighton Rock inscription, which he claimed to have translated by means of Chinese radicals, to the following effect:

A chain or band of folk from the Sunrising (or East), after a long and stormy voyage, found the harbor of a great island. It was wild, uninhabited, green and fruitful. On landing and tying up our boats, we first gave thanks and adoration to God, Shang-Ti, the Supreme Ruler of the Universe. We then sacrificed a human head to the moon, burning it and the body on a round sun-altar. The next morning a bright sun shone auspiciously on all things below; the heavenly omens and prognostics, duly consulted, were all favorable. We then struck across the tangled forest-land westward. Our mouths hankered after something to eat and drink. We found the blue-black maize of our native land and wild fruit. We filled our rice-kettles. We dug a pit under the rocks of a hill-side, put in our corn and fruit, and cooked them. We sat down under the shady trees, covered with wild grapes, and ate our fill. When the moon rose, we retired to our hut or bough-house, and slept. The next day we pushed on westward through the tangle, guided by the sun. The chief gave the orders and led the way. We all followed in close march. We crossed some low hills and came to green meadows, filled with wild rice or oats. A stream of water came down from the hills. We stopped; we made a great feast; we sang and danced around our big kettle; its sweet odors curled up high to Shang-Ti, our God and Father in heaven. This memorial-stone or altar is dedicated to Shang-Ti, our Ruler and Guide to this newly-found island.

MINOR SUGGESTIONS

We are certainly now nearly sated with theories. Yet the theory mongers are ever at work, and give themselves and us no rest. We can deal rapidly with a number of their suggestions, in support of which they have discovered no evidence. For instance, Samuel A. Drake [1] concedes that it is generally admitted that the inscription is Indian; but adds that if the work of white men, it would strengthen the theory of Verrazano's presence in these waters. Laing, whom we have

[1] No. 139.

quoted, asked what there is to prove that these marks are not the work of early European settlers, or the scratches of some idle sailor boy. Edward Everett also, it will be remembered, thought that there was a possibility that they were made by some Anglo-American between 1620 and 1675. Schoolcraft, in his review of 1839, suggested that the English or Roman characters might have been added to the Indian marks by some idle boy or more idle man, in sport. Baxter informs us that some writings on the Maine coast, claimed to be Norse, are known to have been made by boys, for sport.[1] Squier also, in his paper of 1848, was of the opinion that some of the lines were preserved from disappearance, or even brought into existence, by the constant rubbing to which they are exposed from the sticks and canes of visitors. In an earlier paper, we examined two traditions related by Kendall, attributing the sculptures to English sailors.

We have the authority of Kendall also for a vague tale of pirates who made the inscription. Such rumors are not yet dead in the neighborhood. A resident of the town tells me that when he was a boy he knew an old man who claimed that he could read the inscription on the rock. Its purport was to the effect that "I, so-and-so, have buried treasure in such-and-such a position, measured thus-and-so from this rock." In connection with such tales, we have already noticed James Winthrop's story of much digging for treasure in the vicinity. Again, similar stories persist. A correspondent who lived near the rock years ago knew an elderly lady, who, when she was a girl, knew of a treasure-hunter whose enterprise terminated when he slipped and broke his leg. The most circumstantial tale that I hear in the neighborhood is the following, related by a man who knew the hero of the tale when he was a boy. The said hero dreamed for three nights running that he had found treasure near Dighton Rock. Consequently he went to it at low tide and began digging. He quickly noticed that the tide began to rise almost immediately, although it was long before the time for it to do so. Thus interrupted in his digging, he turned toward the river. In the mist before him he saw the devil, equipped with all his paraphernalia of tail and horns and cloven hoof, mocking and laughing at him. Convinced that the treasure was effectually guarded he fled in terror.

In the earliest period of this history, we found a few who believed

[1] No. 43, p. 27.

that nature alone, with its weather-cracks and veins and stains, was the sole designer of the figures on the rock. Besides the other suggestions referred to above, Laing, after relating the instance of the Runamo stone, hints that the "Deighton Written Rock would perhaps be the better of a certificate from the mineralogist, as well as the antiquary." Webb tells us of one person who was positively sure that there is no inscription on the rock. In a letter of February 4, 1838, he complains to Bartlett: "John Whipple laughs at the whole affair, denies that there are any such figures as we represent on the Tiverton Rocks, having visited them many times, that there are hundreds of just such rocks in our Bay all of which were marked by the action of water, stones, &c, and that these markings have by the conjurings of our imaginations been fashioned into the shapes delineated on our plates. He considers the Inscription Rocks, Animal Magnetism, & Phrenology, among the humbugs of the day." Apparently he refers to the same person in his letter of sixteen years later to John Ordronaux, in which he says: "One denied that any kind of Inscription was on the Assonet Rock; declaring that the markings were mere lusus Naturae; or at most, simply the results of combined action of wind, water, ice and kindred influences." [1]

These miscellaneous theories would be incomplete without mention of one which I believe to be a complete fabrication. A boy of fourteen or fifteen years residing temporarily in Dighton told me that he could read the inscription on the rock. The characters, he said, are all Indian names. He knew a dozen or so of them, but a friend of his once knew them all, about fifty in number. He could remember only the names Leo, Viola, Varcana — the first being the name of the infant pictured there. He could not describe the characters that spelled these names, except as different kinds and groups of X's; nor could he draw them. He would have to show me on the rock itself, — and we never found opportunity to go to the rock together. He claimed to have studied the Indian language and writing at a high school in Vermont. Among the neighbors he had the reputation of telling big stories; one said he was "just a plain liar;" and a report from the school where he gained his unusual ability to read Indian writings naturally disclosed the fact that nothing of the sort had ever been taught there. But it is worth while to have a "plain lie,"

[1] Nos. 481, 482.

especially when so picturesquely developed, to add to our collection. We have already had hoaxes and parodies. To make the collection complete and well-rounded we have yet in store first a fascinating possibility that proves a pricked bubble in the end, and then finally such a wild flight of genuinely disordered confusion and fancy as seemingly to pass the bounds of sanity.

The pricked bubble presented the appearance of a thrilling romance at first, with possibilities of proving a precious source of information concerning our rock. The story originated in a communication from General Guy M. Fessenden to the Warren Telegraph on June 2, 1860, and was repeated in 1904 by Virginia Baker. It relates that after King Philip's War the remnants of the Wampanoags fled to Maine and there merged with the Penobscot tribe. Up to half a century ago, parties of Penobscot Indians were in the habit of making periodical visits to Warren. Among them was Francis Loring, known also as Chief Big Thunder, custodian of the tribe. He informed General Fessenden "that the tribe had in their possession, and which they carefully preserved among their national archives, an ancient book made of skins [or of birch-bark], containing many descriptions of important historical localities, some of which are in this vicinity, all of them in the ancient Indian style of signs and picture writing." [1] By its aid Mr. Loring had no difficulty in locating the ancient Wampanoag national grinding mill, and an Indian cemetery. Unfortunately the ancient book was later accidentally destroyed by fire.

This story seemed worth probing further; for if Assonet Neck was, as some assert, a favorite hunting ground and national possession of the Wampanoags; if they were the carvers of Dighton Rock; and if their ancient book accurately described their chief historic localities and monuments, — then might there not be some hope that it contained a description, perhaps a reproduction, possibly even an interpretation, of the Assonet inscription? And even though the book itself was no longer in existence, might not some present Indians, especially the successor to Big Thunder as custodian of the records, still have vivid memories of its former contents? It would be strange if true, yet not to be discarded as utterly impossible. I was fortunate in being directed eventually to the right source for settling the question convincingly. Dr. Frank G. Speck of the University of

[1] V. Baker, Massasoit's Town Sowams in Pokanoket, pp. 36–37.

Pennsylvania, who has made intimate studies among the Penobscots, gives me the following information:

It is very doubtful whether any of the Wampanoags ever merged with the Penobscot. Francis Loring or Big Thunder was a Penobscot mixed blood who died some years ago. It is enough to say of him that he was a "show-man" in every sense of the term. He was a most unreserved liar and no secret was made of it among the Penobscot. His business was the deception of the public. He had a little relic shop on Indian Island where he sold "ancient relics" which he manufactured, and I have encountered many stories and traditions which were his own invention. Among them must be included the "ancient Book" hoax. In short, Big Thunder was a joke among all who knew the Indians.

DIABOLISM

We have seen in the treasure hunting stories evidence of a sort that Dighton Rock is under the particular care and protection of his Satanic Majesty; and that he has been at work also in his more familiar role as Father of Liars. We might have suspected it from the confusion of tongues and of opinions that have attended it throughout its eventful history. Back in the dim beginnings of things Cotton Mather taught that it was probable that the Devil seduced the first inhabitants of America into that continent, and —

> therein aimed at the having of them and their Posterity out of the sound of the *Silver Trumpets* of the *Gospel*, then to be heard through the *Roman Empire*; if the *Devil* had any Expectation, that by the Peopling of *America*, he should utterly deprive any *Europeans* of the Two Benefits, *Literature* and *Religion*, which dawned upon the miserable World, one just *before*, t'other just *after*, the first famed *Navigation* hither, 'tis to be hop'd he will be disappointed of that Expectation.[1]

One writer on the Rock expresses wonder that Mather, believing that the Devil led out a colony of miserable savages to America for the reasons stated, "had not also suggested the idea that this rock probably recorded some event connected with that expedition of his Satanic Majesty and that the strange characters were the work of Tartarian chisels."[2] Another, reflecting on the fact that no two

[1] Magnalia, bk. i. ch. i. p. 2.
[2] No. 27, p. 82.

careful and faithful copies of the inscription can appear intended for the same design, says that "the stone itself seems to be endowed with a magic power of deception." [1]

Psychopathology and the Reductio ad Absurdum

We have plentiful indications, it would seem, of diabolic influences centering about the ancient relic. Yet if the King of Evil has thus exhibited a special liking for this boulder of sandstone, his right to it has not been undisputed. According to our next authority, his most redoubtable adversary has also claimed it for his own; and thus there has raged over it a genuine Zoroastrian conflict between the powers of Good and Evil. Still, it is the Prince of Darkness himself who must be held accountable for this new and greatest masterpiece in Dighton Rock literature, if it be true that extravagant mental delusions, beyond anything we have yet examined, are an indication of possession by the devil. The reader will understand that I am expressing no opinion as to whether or not the production now to be reviewed is an offspring of actual paranoia. He will readily arrive at his own conclusions. My function will be simply to lay before him certain facts of intense psychological interest, in a form more systematic that than in which the author presents them.

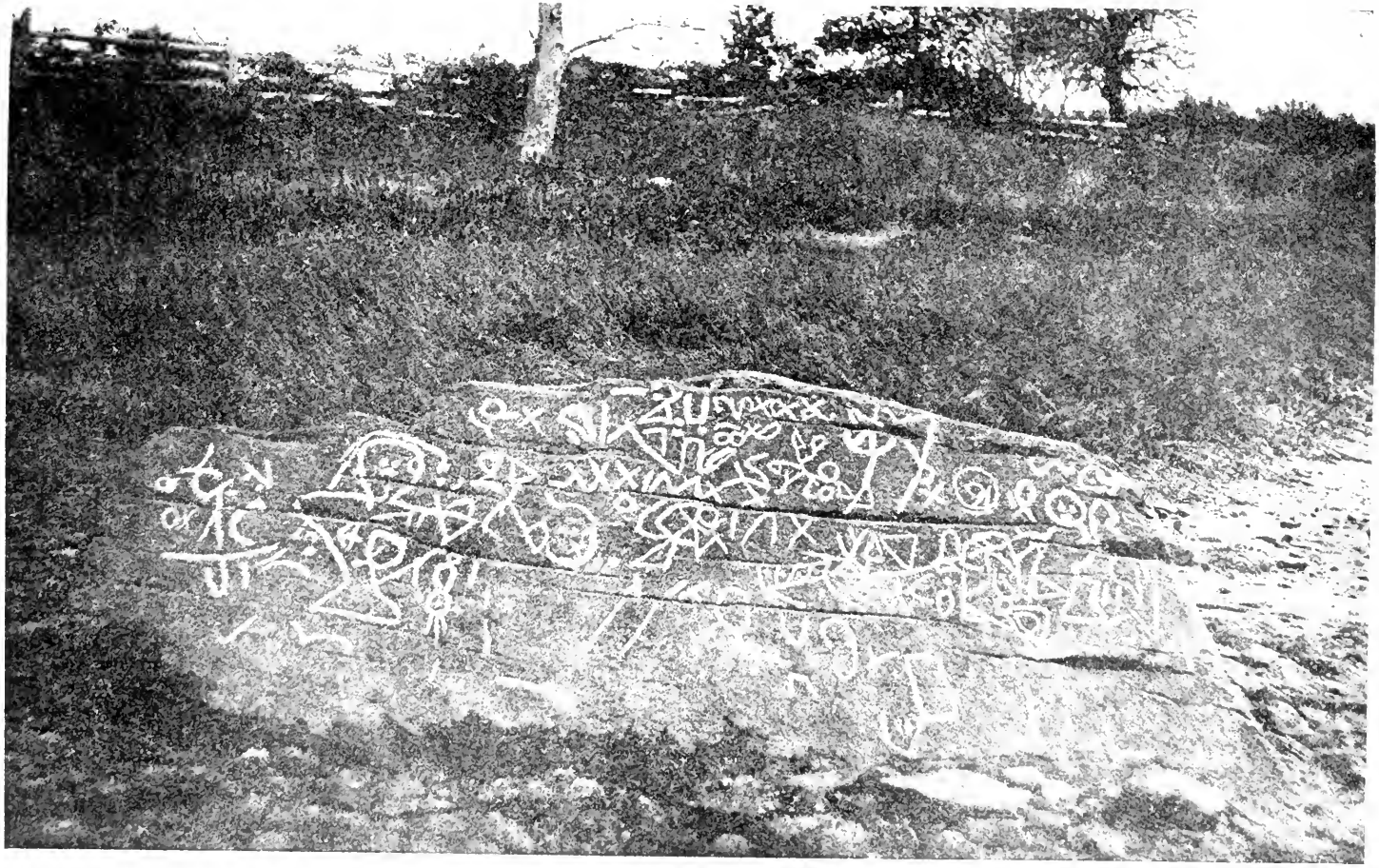
In 1910 there was published a beautifully printed and illustrated folio volume of 432 pages under the title: "Fernald Genealogy. Universal International Genealogy and of the Ancient Fernald Families. . . . By Charles Augustus Fernald, M.D. . . . Principal of G.U.S. & F.A." [2] This extraordinary book purports to trace the genealogy of the Fernald family back to Ava and Adam, our first parents, who were created 4376 B.C. Its long line includes the royal houses of China, Persia, Egypt, and France, and all of its members from the first have such titles as FNR, FNA, PHRA, FERNEL, etc., as part of their names, which seem to be regarded as the equiva-

[1] No. 128, p. 308.

[2] Fernald received his M.D. at the Harvard Medical School in 1872, and afterwards practised in Boston. The initials of his self-conferred title stand for "God's United States and Foreign Alliance." He was born December 5, 1847, at Wolfborough Centre, N. H.; died March 15, 1916. Besides this book, he published also: The Downfall of Rome; or, History Repeating Itself, 1896; and in 1899 issued two editions of a large folded sheet printed on both sides, entitled: Genealogy of the Ancient Fernald Family, From Adam to Date.

lent of the modern FERNALD. The author claims to have discovered the primitive language (which was Ægyptian) and the primitive alphabet, and his method seems to be first to translate his ancient documents into these, and thence into English in a manner peculiar to himself. As evidential documents, there seems to be nothing mysterious and unreadable that does not serve him. China, Japan, Babylon, Egypt, Greece and Rome, the ancient Hebrews and the American Indians, all contribute to his material. He pictures and translates inscriptions on pyramids, obelisks, papyrus, rocks, ivories, shells, coins, medals, implements, rings, seals, grave-stones, coats of arms, manuscripts. His favorite sources seem to be Egyptian records, Roman coins, Hebrew scriptures, the Moabite Stone, the Tablet of Abydus, an "ancient Chart Log," the American Indian mounds, the Newport Tower, Dighton Rock, and the Peter Faneuil Tomb in Boston — all of them translated by his own peculiar method.

Incidentally, he claims that George Washington was a Fernald, and that he so signs himself in his well-known signature; that William Shakespeare was the nom-de-plume of Samuel Washington, who also was a Fernel; that the Phœnicians driven by Joshua founded Ireland, whose real name was Furna; that the Dalai Lamas of Thibet were named Fa, equivalent to Fernald; and even that God's name in the primitive language was O, which means Fa. He intersperses his narrative with moral platitudes, pious maxims, epigrammatic sayings of eminent men,—all of them utterly irrelevant. "Do nothing today that you will repent of tomorrow. Use temporal things, but desire eternal;" "Historical Truth Doth Accurately Repeateth Itself;" "Right is true equity and impartial justice;" — these are examples, and his pages are abundantly adorned with the like. There are many other irrelevant materials. Prominent among them is the fact that the author is "Principal of God's United States and Foreign Alliance," whose chief purpose seems to be the advocacy of three laws against alcoholism and sexual immorality. Because Popes Leo XIII and Pius X refused to support these measures as advocated by him, he claimed that the Roman Catholic Church had poisoned his ancestors, including Dr. Jean Fernel, legitimate son of Charles VIII of France, and had profited by the twenty million dollars stolen from them. Consequently he sent to the Popes a bill for this sum and interest on it, against which he drew checks to individuals and nations amount-



HARRISON-GARDNER PHOTOGRAPH, 1875

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ing in all, according to his statement (page 136), to about $1\frac{1}{2}$ quadrillion dollars. In other ways he exhibits a strong anti-Catholicism; and he is quite as strongly anti-grammatical, anti-coherent, and anti-systematic.[1] As a typical example of his accuracy and coherence, the following is illuminating: "In South America, the Mississippi Valley, North and South through the interior of the Continent, 1200 miles in width: flows its River more than 4000 miles from head to outlet of its longest branch."

The lack of an index and the almost utter lack of system in the arrangement of his rambling material, make it difficult to give an impartial and reliable account of his claims and of their basis. For most assertions, no evidential basis is even suggested. I have gleaned enough, I think, to represent him fairly. To add criticism of my own to the attempt that I shall make to present his method, so far as I have been able to understand it, and the results that he obtains will be entirely unnecessary.

Scattered here and there can be found a few examples that show his method of interpretation. They will be entirely convincing as to the value of all of his translations. Usually he gives no indications whereby the reader can at all follow and test his readings; but these selected instances are probably typical of them all. (1) On page 6 he gives the "Mound History of Creation from one of five translations all true." His method permits as many different translations from one source as one may wish to make. (2) On pages 29 to 32 he gives "six all true translations from a grave tablet in Ægypt." They differ utterly. For one of them, he reverses the plate "to show one mode of reading;" and in an adjoining plate he shows "the inscription on Dighton Rock . . . reversed to show one of six readings."[2] So far as the reader can judge from text and plates, the six readings from the Egyptian tablet are identical with the six from the entirely dissimilar inscription on the rock. (3) A single curved line (⌒) on a "Babylonish design" (page 82) he calls a large C, and tells us that it "declareth that Christ shall cut his line on Dighton Rock." (4) A proclamation of Cyrus King of Persia, given in II Chronicles xxxvi. 22, 23, and in Ezra i. 1–6, is re-read as giving almost

[1] For evidences of what appear to be delusions of persecution, including thirty-nine attempts upon his life, see pp. 136, 137, 182, 191, 211 f, 256, etc.

[2] P. 33, Plates 64, 69. Cf. the Biglow Papers.

the complete Fernald genealogy down to about forty generations beyond the present time (pages 113–116). (5) On page 218, single letters selected at random from different lines of a long poem are taken to indicate: U.S.A. = United States of America; A.S.W. = America's Samuel Washington, etc. (6) On page 266, the following is quoted from Milton's L'Allegro:

> Then to the well-trod stage anon:
> If Jonson's learned sock be on,
> Or sweetest Shakespeare, Fancy's child,
> Warble his native wood-notes wild;

and this is given as its "true translation:"

2nd line, I.F. = J.F., the initials of John Firnel, Jon. Son 1st line, — trod = Dr. (& to Hen.): (2nd 1, 3 words find) Jean Fernel and son Jon = John Fernel or Firnel, who took name of Shakspere. 2 & 3 lines hatn: — "Jon, son of Jean Fernel, s. Anne and Charles VIII = count of eight words to "learned" truth, in "sweetest" the initials of "S.W." is "Shakespeare Fernel's child." All four lines as ancient Ægyptian is read: WA (from warble" "Sh" from Shakespeare "i" from "child" n from "on" g from "stage" t from "native" on from "notes" and woo from "wood" and General George Washington kept his Fernald O seal in writing his autograph "Go Washington.") It may interest the student to know that in all Skakespeare's works he kept the family history, that posterity, as in this may and will profit by if wisely read in verity.

Here is clear proof that William Shakespeare was identical with Samuel Washington and was descended from Dr. Jean Fernel, son of Charles VIII! (7) A final instance, among the few where it is possible to follow the author's method, will help to convince that the simple procedure thus far indicated is really the one used throughout in obtaining the author's extraordinary results. On page 79 is figured "a coin of Alexander." We are told that thirteen dots that appear on a sword-blade there represented, as also on a well-known Egyptian drawing that he calls the "Ham Map" (best shown on page 278), "represent Stars that foretells U.S.A." Eleven o's are "a prophecy that child of line shall write the lines as declared above." An A is the pyramid in a lake in Oregon, the garden of Eden; the white spot in it "is name pure God." An insignificant curved black line "is the so-called serpent Line Mound at Adam's County, Ohio."

A long thing that looks more like a knobby club than anything else is "a line of waters that represents Dighton Rock and River Taunton." A short pointed mark or wedge is "a fallen pike point carved on said Rock prophesying fall of killed Alexander and Sassan." A T is a "monogrammic spelling of Noah and Lamar, Ham, Araat, and turn the coin upside down and T symb. declares Lamar Noah and Hm. went from Araat and next symb. 'to pyramid Lake, Oma'." He thus concludes this interesting study of a single coin:

To be complete some of capital point mentioned would enlarge this work, far beyond the intent to more than bring before all, especially expert linguists, positive evidence to glean, for the granary store house of history, crude sheafs of TRUE unwinnowed perfect grains that if well received — is to be put into 2nd Edition: the opponents will be, are those, set forth in past Encycliæ who profit by ignorance and sin.

We have now enough data to enable us to evaluate the entire work. But we must not dismiss it without gathering together and exhibiting in a manner more systematic than that of the author the many references to Dighton Rock. If any should regard them as unworthy of further consideration, I wish to urge a study of them as furnishing a marvelously perfect *reductio ad absurdum* of all those methods of interpretation that find in the rock's inscriptions evidence of ancient Phœnician voyages or Icelandic discoveries of America. We have found a full score of rival translations of the inscription. In trying to show how baseless they all were, in spite of the plausibility and poetic appeal of some of them, I had no hope of discovering so perfect a refutation of them all as we are providentially given here. So far as I can see, this one is worthy of acceptance as being fully as well supported, fully as complete in detail, fully as attractive in its appeal, as any of the others. It is beautifully illustrative of the method of all of them carried to its logical and patently unsound extreme. It has no rival except the sober and simple belief, consonant with all genuine evidence, that the characters were inscribed by American Indians and possess no significance that has yet been discovered or that would be of any very great interest if known.

In the entire work, without an exhaustively minute study, I find forty-four cases of mention of Dighton Rock.[1] The author claims to

[1] Pp. 5, 8, 9, 20 (7), 29, 32, 33 (2), 36, 37, 38, 44, 50, 60, 66, 67, 71, 78, 79 (2), 82, 87, 88, 108, 124, 127, 133, 135, 162, 166 (2), 241, 259, 267, 278, 369, 398, 427.

have "made 16 Photographs of Rock fast crumbling into decay," but shows none of them. Three times, however, he reproduces the Job Gardner drawing (pages 5, 20, 33), once inverted "to show one of six readings," taken, as he says, "from U. S. History 1853." [1] In addition, he gives twice what appears to be an original drawing of the shoreward slope of the rock with its markings.[2] He makes mention also of a "Sea Green Flag" erected on the Rock by Marcus Agrippa in 29 B.C., and this is said to be pictured on a coin on page 20, on a design called a "Roman Mariner Compass" on page 165,

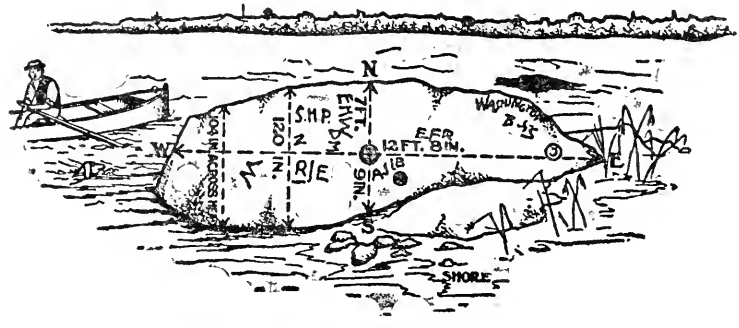


FIG. 5. SHOREWARD SIDE OF DIGHTON ROCK
Drawn by Charles A. Fernald, 1903, from Fernald's Universal International Genealogy, 1910, Plate 70

and on the Copan Statue of Central America on page 134. Page 20 presents a confused pen-drawn conglomeration of pictures and statements, difficult to decipher. So far as they can be read, the following refer to Dighton Rock: "Coin and Medal of Augustus showing part of Dighton Rock inscription;" "Inscription on Dighton Rock;" "8.9.10. show colony of August at Anon, Roman Ægle raised with flag on Dighton Rock." In one corner appear the Gardner drawing and the drawing of the shoreward slope; and near them can be made out, with much difficulty and some uncertainty: "Carefully from 15 photographs, many days of inspection for truth only I give the amply proved result of rock at Dighton, Taun-

[1] Very likely an edition of one of Lossing's pictorial histories, since Lossing is the only historian I have yet discovered who uses the Job Gardner drawing.

[2] Pp. 20, 33. See Fig. 5, on this page.

ton River, Mass. E. end with C. Furnius name written over by Marcus Agrippa Lucius Furnius. Washington's name was supremely distinct in first three or four letters by me seen. I make oath of the fact, measurements with repeated examinations of ington warranted claim of full name. . . . which with EFR and ASB are very old. EHW upper end more recent. The ⊥ are spelling of Noah and Ham." The text underneath says: "7, Sea Green Flag of Dighton Rock, Gift Emp. Augustus to M. Agrippa L. Furnius, pictured over waters on Copan Monument. . . . 23, Inscriptions on Dighton Rock."

In a number of other places there are said to be partial depictions of the inscription on the rock, or prophecies concerning it. Thus a ring found at Ghizeh in a tomb and called the Suphis ring (page 219 and plate 1087 on page 217) "gives part of inscription on Dighton Rock." A part of the "Cosmas Map" (page 60) is interpreted as "The inscription Rock at Dighton River, Mass." Plate 178 on page 87 contains "an Ægyptian symbol and record of battle at or near Dighton Rock, Taunton River, Massachusetts, United States of America. There has been found arrow heads and other evidence of a great battle." The Moabite Stone and other sources of the Fernald Genealogy contain prophecies (pages 71, 78, 88) that Christ, Marcus Agrippa, Chia and Bahman will cut their names on Dighton Rock, and that Agrippa will raise the Sea Green Flag thereon.

Of the characters on the rock, mention is made of two squares "placed cornerwise on Rock with a line showing them returned," and of three O's, "ancient names of Trinity," one of which was "added by Christ that gives the time he taught at that locality." There is no indication given of the translation of any other marks on the face, unless an XV, an XXIII, and a combination of three letters resembling O Delta Upsilon which he mentions, are supposed to occur there. On the shoreward side, we are told that there occur, in positions indicated in the drawing, (1) the name of Christ included within that of God (a C within a circle); (2) the name of Washington, "distinct in first three or four letters;" (3) the names of Chia and Bahman; (4) the name of Marcus Agrippa over that of C. Furnius, or of C. Furnius over Agrippa; (5) the names of Noah and Ham; (6) an ancient compass; (7) many initials.

These statements are scattered over many pages (8, 20, 33, 37, 128, 162, 166). Finally we are informed (page 427) that "on Dighton Rock was photographed by me characters that Marcus Aggrippa Lucius Furnius was conversant with as is found in his chiseled inscription containing primitive language that Christ used when he conversed in 'tongues.'"

This is all that we have of interpretation that can be assigned to particular characters. But, without further understanding its justification, we are given a story which may be assembled from scattered passages as follows:

Marcus Agrippa Lucius Furnius, the great Naval Commander of the Emperor Augustus, sailed with five ships from Roma in 29 B.C. to Annona (Anon, Omo, Ama, Amo, Augustii, Amarica), where God in the Garden of Adn first created woman and man, Ava and Adm, and their seed. There, in the primitive language of lines, he engraved the fact and date on Dighton Rock, and on it raised the Sea Green Flag given to him by the Emperor; and also wrote his name over that of C. Furnius (unless the latter was the later). He returned from Omo 28 B.C. with three ships, wife, son and daughter. He left behind his son Graecianus Julius Caius Furnius and daughter Isabel, who commenced the Newport Tower before he left, for defence, Temple, and Monument. The son did not complete the Tower, but returned to Rome with one ship and fifty men. His name and his father's appear not only on Dighton Rock, but also in the Monhegan Rock inscription, which dates from 1013 B.C.

In 15 A.D. Christ sailed from Rome to Anona, and wrote his name on Dighton Rock. The following is "translated from Dighton Rock inscription" (page 8):

Theos, I Christ, the son of my Heavenly Father God come up from the waters and write my name within that of God on this Rock and Engrave hereon for men and the sons of all women and men for I am sent by the Father to teach that all who believe in me shall have Eternal Light for I AM HE THAT I AM: I the son of God the Father and God the Holy One of Israel, sail from Roma XV to Anona the land of Omo, Ama where God from Air, Earth, Electricity, Radium, Water made woman and man, Ava, Adam in his glorious form and image to be children of the Light and Multiply for the glory of God. I Christ the son of God to teach you to do the works of my God who

gave to you his symbolic letters OΔϒ here shown. Returned 10 plus 10 plus III = 23 to Roma, etc.

Another translation is given, purporting to be from "an Ægyptian tomb at Eileithyias" (pictured on page 29 and again inverted on page 33), and to be also a translation of the inscription on Dighton Rock. It is one of "six all true translations" of these two records (page 32):

THE FIFTH TRANSLATION HISTORICAL CORRESPONDING WITH INSCRIPTIONS ON DIGHTON ROCK, TAUNTON RIVER, MASSACHUSETTS, UNITED STATES OF AMERICA BEAUTIFUL HIEROGLYPHICS AND LINES STRANGE

God the Eternal Mother and Father of Christ the Son to be Born from Mary and Joseph: — "XV, I, Christ the Messiah, came by Ship from Roma, to be known Dighton Rock, Taunton River, Massachusetts: and say I, the Great Spirit, Chisel My Name in the Rock in My Father Fa (O=Fa=God name) * On the Rock East of where Marcus Aggrippa Lucius Furnius, Driller of the Names of God the Holy One and God the Father, and from former raised the Sea Green Flag: by Chart and Compass * * I came bringing to the Land of Omo, Ama= Annona=Augustii=Amarica, foretold by Moses, the Serpent Mound Land, bringing the Sacred Rolls, Squares and Tablets given to Ava and Adam and Seven Laws, where Cain was born, given: I taught the Antedeluvians from the Squares to be One with Trinity, that willed all United in Brotherly Filial Love a Branch of Triune the Manitou God: I taught: 10 and 10 and 3 years returned to Roma: Thus my Father God ordered and made most perfect, His children, Female and Male, Daughters and Sons line to count by the Stars, Completed in Messiah Christ and Saviour." This and much more is read in the inscription from Dighton Rock, that the tide conceals and reveals twice in twenty-four hours; fast disappearing, without (till this hundreds of years past) correct translation lost, which, is honestly, carefully presented for Justice, verity.

In 221 A.D., Fnr Chia, daughter of the Emperor of China, a descendant of Fut, son of Ham, founder of China, and of M. Agrippa, with her husband Fna Bahman of Persia, sailed with two vessels from Fars (Persia), with Agrippa's Chart Log and Compass (the latter shown on the Rock), and finished the Tower Temple at Newport. Their names are carved on Dighton Rock. The people were fierce

and bloodthirsty, and slew Bahman and many of his people. He died June 8, 223, and was buried (as was also an infant child born here) under the Tower. Their eldest son, F. Sassan, also died on December 10, and was buried with his armor on, and with his sword and spear, near the mouth of the river TSEON or Taunton (a picture of the Fall River skeleton is shown on page 8). With another son, Chia visited the Serpent Mound, built by Ava and Adam. She died May 6, 230; and her features are sculptured on the stone at Copan in Central America. One son became ancestor of many great nations in Anona; a second went to China and was ancestor of Confucius!

Ideas are peculiar things. In many ways they resemble persons and nations. Some of them can live amicably in company with others, can give and take, grow and expand, assimilate foreign as well as sympathetic material to their own advantage and progress. But some, once formed, are fixed and unchangeable in character. They can grow only on material that flatters. They are blind to all virtues but their own, arrogant and immutable; and in presence of anything foreign they cannot compromise or assimilate, but must dominate, disregard, or die. Almost all of the detailed attempts at translation of Dighton Rock have been of this character; but we have by far the most perfect example here.

Ownership of the Rock and Projects for its Removal

We have surveyed now all of the theories, so far at least as we have been able to discover mention of them, that have been advanced to account for the inscription. This, however, does not constitute all of its significant history. The successive changes in ownership of the rock are pertinent, and of particular interest are the various attempts that have been made to reproduce the characters on it.

Until toward the close of King Philip's War, Assonet Neck, on which the Writing Rock is situated, was the property of the Indians. From an affirmation of 1673,[1] it appears that the Neck was then regarded as belonging to one Indian alone, named Piowant, and not to the tribe as a whole. The rock itself, however, if any thought was given to it at all, may have been claimed by white men; for in 1640

[1] Plymouth Colony Records, xii. 242.

the Court at Plymouth granted to the proprietors of Taunton the meadow lands or salt marshes of Assonet Neck,[1] and the proprietors shortly began to give grants of them to individuals. The records of these earliest grants are lost. But before 1680—perhaps long before that — Henry Hodges owned a salt meadow lying along the edge of Assonet Neck, bordering on Taunton river. When he sold it in 1691 he defined its limits in such a manner as to show that the rock would have been included within them. This claim, however, was evidently disputed, and Hodges's actual possessions regarded as ceasing to the southward of the rock. The rock itself is on the edge of the upland, with no intervening salt meadow. Just above it, however, is a small cove of meadowish land, and in a deed of division of 1717 the parties thereto, owning the adjoining upland, "agree to be at equal charges in defending said Cove against all persons layeing any lawful claime or demand to the same." [2] From this time on, the cove and neighborhood remain in enjoyment of the owners of the upland without successful dispute. Hence, although for a time Henry Hodges laid claim to the river-border whereon the rock stands, and his predecessors, if he had any, in the ownership of this meadow may have done the same, yet in the end it was decided that the rock and surrounding land were part of the upland, and hence owned by the Indians until 1676.

As early as March 10, 1676, the Colony of New Plymouth looked upon Assonet Neck as belonging to it by right of conquest.[3] It was, therefore, the owner of Dighton Rock until the 12th of November, 1677, when the Neck passed into the possession of six proprietors.[4] These men made an agreement of division on March 23, 1680, and the portion which included the rock was set off to James Walker, a prominent proprietor of Taunton.[5] In 1690, he deeded his Assonet Neck property to two daughters, Hannah and Dorothy, who eventu-

[1] When the Court acquired or assumed the right to dispose of them is not on record. Doubtless they were conveyed by Massasoit in the original, now lost, Cohannet deed of about 1637, or soon thereafter, for Philip included them in his confirmatory deed of 1663.

[2] See our Publications, xviii. 241; Land Records at Taunton, Book 3, p. 287 (1680); Book 3, p. 174 (1691); Book 7, p. 720 (1717).

[3] Plymouth Colony Records, v. 191, 240.

[4] Plymouth Colony Records of Deeds, Book 5, p. 199.

[5] Land Records at Taunton, Book 3, p. 287.

ally divided the lot, and Hannah, together with her husband Benjamin Jones, whom she had married in 1695, became owner of the part containing the rock. In 1718 Benjamin Jones left his lands to his son Benjamin by will, and in 1720 his widow Hannah confirmed the bequest by deed.[1] The next following transfers were: 1768, Benjamin Jones by will to his son Abiel;[2] 1792, Abiel Jones to David Dean;[3] 1818, David Dean to his son David;[4] 1837, David Dean to his five sons,[5] all the rest of whom by sale or division transferred their rights in the part in which we are interested to their brother Thomas F. Dean.[6]

The events of the next few years have often been related authoritatively and in detail,[7] and it will be necessary to give only a brief outline here. In 1857, the violinist, Ole Bull, visited the rock in company with Niels Arnzen of Fall River, and expressed a wish to secure possession of it for the purpose of presenting it to the Royal Society of Northern Antiquaries. Arnzen accordingly purchased the rock and a few rods of adjoining land from Thomas F. Dean, and obtained a deed in his own name on July 25, 1857.[8] Subsequently Ole Bull neglected to refund the purchase money, and Arnzen, after some correspondence with Rafn, made a gift of the property to the Royal Society at Copenhagen by deed bearing date of June 23, 1860.[9] The acknowledgment of the donation, signed on May 27, 1861, by King Frederick VII, President of the Society, is on record.[10] It was at first proposed to remove the rock to Denmark, but the project was

[1] Our Publications, xviii. 286; also Probate Records at Taunton, Book 3, p. 469.

[2] Bristol County Probate Records, Book 20, p. 396.

[3] Land Records, Book 71, p. 13.

[4] Probate Records, Book 54, p. 506.

[5] Book 78, p. 117.

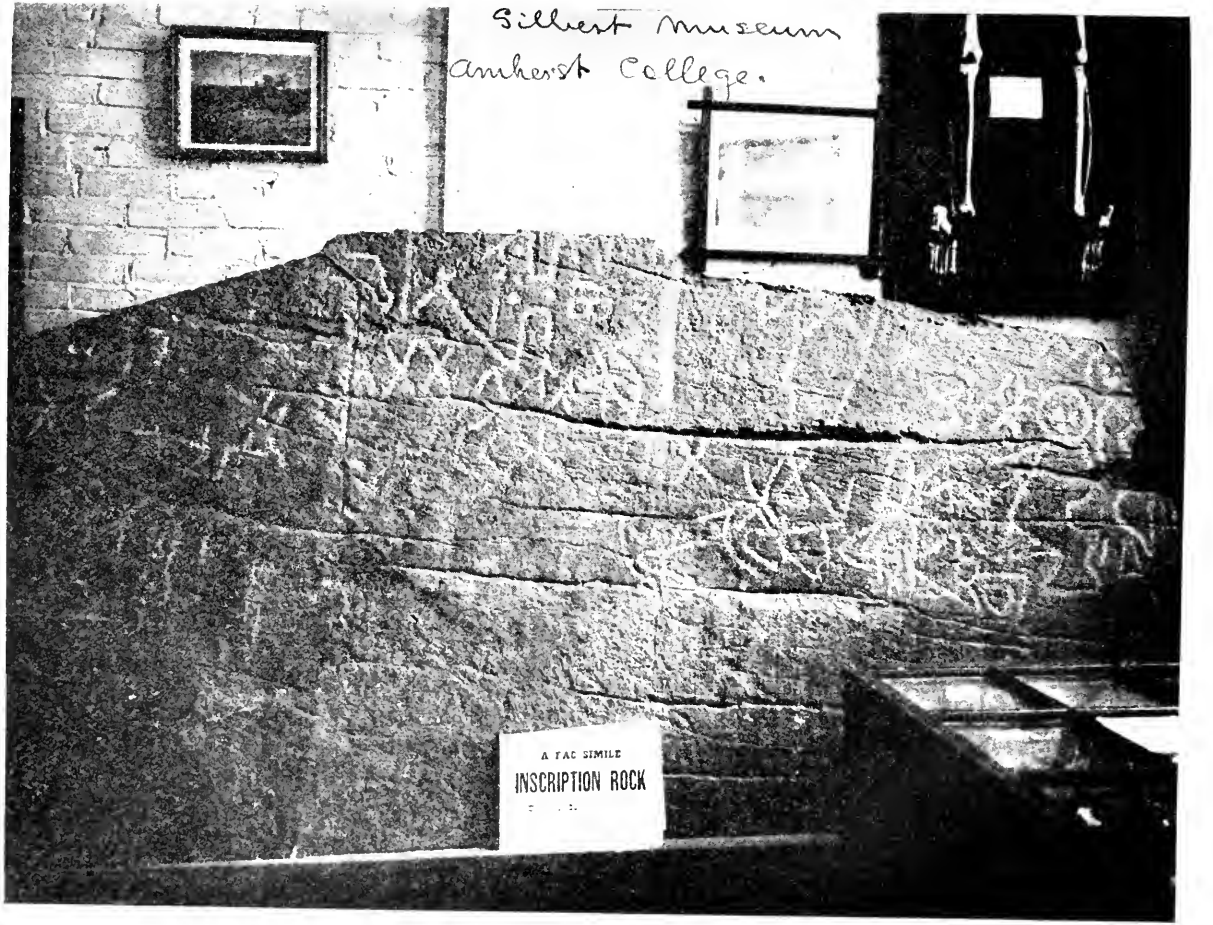
[6] Land Records, Book 166, p. 107; Book 170, pp. 25, 161; Book 220, p. 300.

[7] Nos. 10, 17, 18, 20, 218. See also J. E. Olsen, in Nation (1887), xlv. 395.

[8] Land Records, Book 253, p. 92. The boundaries of the land conveyed with the rock in this and subsequent deeds are thus described: "Beginning at a point where an east and west line drawn 17½ feet south of the Rock known as the Writing or Dighton Rock intersects a line drawn north and south 35 feet east of said Rock, thence by said north and south line north 35 feet, thence west to Taunton River channel, thence south by said river 35 feet, thence east to the first mentioned bound."

[9] Land Records, Book 253, p. 93.

[10] Book 259, p. 49.



BLAKE'S PLASTER CAST, 1876

FROM A PHOTOGRAPH IN THE MANUSCRIPT CATALOGUE OF THE GILBERT MUSEUM AMHERST COLLEGE
ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

abandoned because of war and the death soon afterward of King Frederick in 1863 and of Rafn in 1864.

On December 8, 1876, a complimentary reception and dinner were held in Boston in honor of Ole Bull. On this occasion a committee was elected whose objects, as announced in a leaflet issued by it on January 12, 1877, were: "to take measures to erect a monument in honor of the Norsemen. Second, For the protection of the Dighton Rock, now in Taunton River." "This committee regard the Dighton Rock," the leaflet continues, "whatever its origin, as a valuable historical relic of American Antiquity and have taken measures to obtain the title to it, in order to protect and remove it to Boston. They invite the deductions of all historic researchers as to the authenticity of these inscriptions." The committee became known as the Boston, or Norse, or Scandinavian Memorial Club; and at its request in February, 1877, the Royal Society in Denmark transferred to it the title to the rock, on condition that it be properly cared for. In a letter of August 17, 1888, to the secretary of the Old Colony Historical Society, Arnzen gives assurance that the transfer actually took place and passed through his hands; but "the Boston Memorial Club was not a legal organization and therefore could not hold the property in a suit at law." It is well known how the activities of the committee resulted in the erection of the Leif Erikson statue in Boston, unveiled on October 29, 1887. Its project to remove the rock to Boston, however, was abandoned. Whether this was due to the conviction, officially expressed by the Royal Society of Northern Antiquaries in 1877, that the rock was not a Norse monument, or to an erroneous belief that arose about that time that the rock was not a boulder but a part of the bed-rock, and hence would be difficult to remove, we are not informed. The only definite statement that I have seen implies the latter. On the back of a stereoscopic view taken in 1873 is printed, among other things, the following: "As the cleavage was found to run horizontally, the inscription could not be split off for removal."

A curious and unintentionally amusing version of the events narrated above is given by the Rev. J. P. McLean. It would be difficult to crowd into small compass a larger number of errors than occur throughout his discussion of Dighton Rock. The portion dealing with these events is as follows: "Magnusen's interpretation inspired

the Royal Society of Antiquarians with so much confidence that it purchased the Rock, and made arrangements to remove it to Copenhagen. When this movement was discovered, a public meeting was held in Boston to frustrate the attempt.[1] The citizens of that city should not feel themselves called upon to express alarm, for the inscription is of Indian origin."[2] Poor ignorant and hysterical Boston!

The transfer of the title to the Memorial Club never having taken effect legally, and the deed never having been recorded, arrangements were made, shortly after the main objects of the committee had been attained, for placing the rock in the care of a local organization which could most effectually take charge of it. Accordingly, on January 30, 1889, the Royal Society of Northern Antiquaries very fittingly deeded it to the Old Colony Historical Society of Taunton.[3] There may it rest! and may some one, with interest in its venerable and instructive history, sometime provide means for its effective protection against the initial-carving vandals who are intermittently at work marring its still insufficiently studied record!

Drawings and Photographs of the Inscription

As an important feature of our task, we have examined the circumstances of production and described the appearance of every discoverable drawing that aimed to portray the inscription, down to those of 1834 and their reproductions by Rafn. It may be well to review the main facts concerning each, and then to continue the task in full detail for all traceable depictions of the rock's appearance and the characters of human origin upon it, that have not yet been described. We shall count as separate drawings or as separate photographs only those made on separate occasions or from different chalkings, directly from the rock. Variants and copies of these will be mentioned whenever they possess any importance. First we list those that have already been described, with mention of the Plate in this series of papers in which each has been reproduced and where it will be found.

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[1] A footnote adds: "It appears that the people of Massachusetts took no particular interest in the rock prior to this time."

[2] No. 293.

[3] Land Records, Book 470, p. 211.

1. John Danforth Drawing, October, 1680.
   - *a.* Original, probably that of Greenwood's Letter B, in British Museum. About 3 x 8. Plate XV, xviii. 288–289.
   - *b.* Cotton Mather's copy of *a*, in Wonderful Works, 1690. ½ x 3. Reproduced by Mather in his later amplified drawings. Plates III, VI, xviii. 242, 254–255.
   - *c.* Greenwood's copy of *a*, 1730, in British Museum. Reproduced by Bushnell, 1908. Plate XI, xviii. 274–275.
   - *d.* Copy of *c*, in Society of Antiquaries of London, 1732. Reproduced by Lort, 1787, and thence by Rafn, 1837; Winsor, 1889; Mallery, 1893. Plates II, III, xviii. 238–239, 242.
2. Cotton Mather's Drawing, 1712. Only the lower part new, by an unknown draughtsman. This part is always inserted upside-down.
   - *a.* Original unknown. About $1\frac{1}{2}$ x $3\frac{1}{4}$. Reproduced in Philosophical Transactions 1714, in Philosophical Transactions Abridged, 1721, Lort, Rafn, Winsor, Mallery. Plates II, IV, VI, xviii. 238–239, 246, 254–255.
   - *b.* Mather Broadside, possibly about 1714. Originals in Massachusetts Historical Society and Yale University Library. Plates V, VI, xviii. 250, 254–255.
3. John Smibert's Drawing, about 1729. Lost.
4. George Berkeley's Drawing, about 1730. Lost.
5. Isaac Greenwood's Drawing, 1730.
   - *a.* Probable original, in Greenwood's Letter B, in British Museum. $3\frac{1}{2}$ x $9\frac{1}{2}$. Plate XIV, xviii. 284.
   - *b.* Greenwood's copy of *a*, in British Museum. Reproduced by Bushnell, 1908. Plate XI, xviii. 274–275.
   - *c.* Copy of *b*, in Society of Antiquaries of London, 1732. Reproduced by Lort, 1787, and thence by Rafn, Winsor, Mallery. Plate VII, xviii. 258.
6. John Winthrop's Drawing, before 1744. Not preserved.
7. Drawing by Ezra Stiles, June 6, 1767, in Yale University Library. $7\frac{5}{8}$ x $24\frac{1}{2}$. Plate XIX, xix. 50–51.

   Some further drawings of particular figures, of same date, in Itinerary in Yale University Library.
8. Drawing by Ezra Stiles, July 15, 1767, in Yale University Library. $7\frac{5}{8}$ x $12\frac{1}{4}$. Plate XX, xix. 58–59.

   Some further drawings of particular figures, of same date, in American Academy of Arts and Sciences.

9. Drawing by Ezra Stiles, July 16, 1767, in Massachusetts Historical Society. 9 x 23. Plate XXI, xix. 66–67.
10. Ink-impression by Elisha Paddack, August 1767, in American Academy of Arts and Sciences, never reproduced; incomplete. 26 x 41. Another small fragment in Stiles's Itinerary, in Yale University Library.
11. Stephen Sewall's Drawing, September 13, 1768.
    a. Original, in Peabody Museum. 36 x 120. Plate XXII, xix. 74–75.
    b. John Winthrop's copy of *a*. Reproduced by Lort, 1787, and thence (unless from *c*) by Rafn, Winsor, Mallery. Plates II, XXII, XXXI, xviii. 238–239, xix. 74–75, 146–147.
    c. Gebelin's copy, 1781. Reproduced in L'Independent of Fall River, July 14, 1915. Plate XXIII, xix. 82–83.
    d. Dammartin's copy of *c*. Plates XXIII, XXXI, xix. 82–83, 146–147.
    e. Hale's copy of *a*, 1834: see no. 217. Copy of this, sent by Webb to Rafn, may have been latter's source.
12. Ink-Impression by James Winthrop, August 4, 1788.
    a. Original not discoverable. About 48 x 120 probably.
    b. Pantographic copy of *a* by Winthrop, published in Memoirs of American Academy of Arts and Sciences, 1804. Reproduced by Warden 1825, Rafn, Roux de Rochelle 1853, Winsor, Mallery. Plate XXIV, xix. 90–91.
    c. Copy of alphabetical characters of *b*, by Samuel Harris, about 1807. Plate XXVII, xix. 114.
13. Drawing by Ezra Stiles, October 3, 1788. Incomplete; not discoverable.
14. Baylies Drawing, by William Baylies, John Smith, Samuel West, Joseph Gooding, and possibly William Baylies Jr., about July 15, 1789.
    a. Dr. Baylies's copy, sent to American Academy of Arts and Sciences. Not discoverable.
    b. Smith-Stiles copy, in Massachusetts Historical Society. 12 x 22. Plate XXV, xix. 98–99.
    c. Smith-Upham copy, in Massachusetts Historical Society. 7½ x 19. Plate XXV, xix. 98–99.
    d. Joseph Gooding copy, in possession of heirs of Sophia F. Brown. 7¼ x 20¾. Plate XXVI, xix. 106–107.
    e. Webb copy, made probably from *d* in February, 1830, known as "Dr. Baylies and Mr. Goodwin's 1790," published by

Rafn, 1837. Reproduced by Aall, 1838; Schoolcraft, 1851 (combined with 1837 drawing); Winsor, Mallery. Plates II, XXVI, xviii. 238–239, xix. 106–107.

15. Edward A. Kendall's Painting and Engraving, 1807.
    a. Oil Painting, in Peabody Museum. $17\frac{1}{2} \times 26\frac{1}{4}$. Plate XXVIII, xix. 122–123.
    b. Engraving after *a*. $9\frac{1}{2} \times 23$. Published in Memoirs of American Academy of Arts and Sciences, 1809. Plate XXIX, xix. 130–131.
    c. Misleading copy of *b*, published by Rafn, 1837, and thence in Dansk Kunstblad, 1837; Winsor, Mallery. Plate II, xviii. 238–239.
16. Lithograph by Job Gardner, 1812.
    a. Original not discoverable.
    b. Dissected copy by Ira Hill, 1831. Plate XXX (with modifications), xix. 138–139.
    c. Copy published by Rafn, 1837, thence by Lossing, 1850 (thence by Fernald, 1910); S. A. Drake, 1875; Winsor, Mallery. Plate XXX, xix. 138–139.
17. Rhode Island Historical Society View or Sketch, by J. R. Bartlett, December, 1834.
    a. Original, in Royal Library, Copenhagen. $9 \times 11\frac{1}{2}$. Plate XXXIII, xx. 298–299.
    b. Rafn's amended and amplified copy, published by Rafn 1837. For reproductions, see above, page 302. Plate XXXIII, xx. 298–299.
18. Rhode Island Historical Society's Drawing, by a committee of the society, about September 4 (retouched December 11), 1834.
    a. Original, in Royal Library, Copenhagen. 15×35. Plate XXXIV, xx. 308–309.
    b. Rafn's copy with additions, published by Rafn 1837. For reproductions see above, page 302. Plate XXXIV, xx. 308.

We shall now proceed to gather together the facts concerning later productions, so far as they have come to my notice. Most of them are of some public importance, through having been published or placed on sale; but a few are included which have never become thus known. One is the best photograph ever secured, taken without preliminary chalking. Aside from this one, however, no attempt has been made to assemble photographs that throw no light on the question as to what are the artificial lines that exist, or are interpreted to

exist, on the rock. It is not improbable that some published drawings have been overlooked. This must certainly be true of some illustrations that are merely copies of those that we have found. And there is no question that many times the rock has been sketched, or its characters chalked and photographed, and the result not come to our attention. One correspondent who lived within sight of the rock for sixteen years writes of often having taken inquirers to see it, who chalked the markings and photographed them.

19. Drawing by Edward E. Hale, July 31, 1839. Not preserved.

In his Diary, Dr. Hale gives a detailed and interesting account of his visit to Dighton Rock on the date above mentioned.[1] Two years earlier, as an undergraduate at Harvard, he was engaged in assembling materials for an intended lecture on American antiquities, "dilating principally on Dighton rock, on which I consider myself *au fait*;" and although I have discovered no indication that he delivered the proposed lecture, or ever wrote any extended paper on the rock, yet there are numerous evidences that his interest in it continued throughout his life. In the manuscript Diary there is a small crudely drawn picture of the "animal" of the rock, with the letters OX above it, which he remarks is the nearest he could see to the pretended Norse inscription; and he expresses as his own view the probability that the Indians cut the marks after the introduction of metal tools, obtained possibly from the Northmen. He says further, however, that he "took a copy" of the inscription; but in a letter to S. F. Haven on October 18, 1864, he remarks that this drawing "has long since disappeared."[2] Hale's mention of the "inscription on the North end of the rock," which is so rarely visible, should again be noted.[3]

20. Drawing by John W. Barber, 1839. Figure 6, xx. 379.

This drawing was published in Barber's Historical Collections of Massachusetts, page 117. In his preface he says that "the drawings for the numerous engravings interspersed throughout the book were, with few exceptions, taken on the spot by the author of this work." The dotted line in the drawing indicates, according to the author, the level to which the rock is generally covered at high water. As a

[1] Nos. 210, 214–216.
[2] No. 211.
[3] See p. 406, below.

matter of fact, the high-water level is "generally" much higher. On the same page is another cut, showing the rock as seen from the opposite side of the river, with a wide stretch of shore visible on either side of it.

This drawing of the inscription has hitherto been reproduced, apparently, only by Nason.[1]

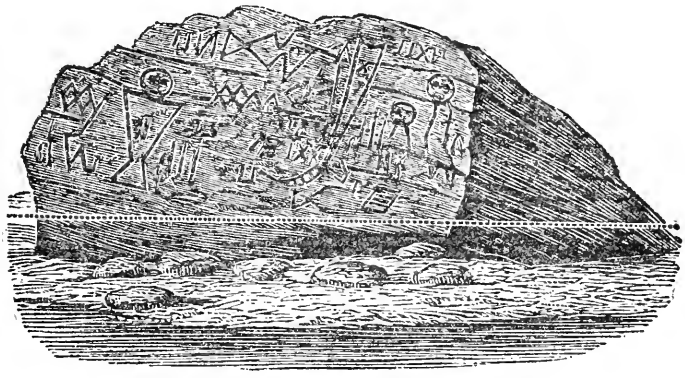

FIG. 6. DIGHTON ROCK
Drawn by John W. Barber, 1839, from Barber's Historical Collections of Massachusetts, p. 117

21. Daguerreotype of 1840. Not discoverable.

In 1854 Dr. Webb claimed [2] that he had in his possession a daguerreotype of Dighton Rock taken in 1840. No trace of it can now be discovered. The date assigned, though early, is perfectly possible.[3]

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[1] No. 324, evidently adapted from Barber.

[2] No. 482.

[3] I am indebted to Mr. Matthews for the following note:

A letter from S. F. B. Morse dated Paris, March 19, 1839, was printed in Niles' Register of April 27th (lvi. 134). The issue of September 21 stated that the secret of the Daguerre "will be known here when the British Queen arrives," the arrival of that vessel at New York being announced in the same issue; and the issue of September 28 contained an extract disclosing the secret from the London Globe of August 23 (lvi. 52, 64, 73). What is described as "the first attempt" was "a photographic plate of the central high school, taken by Joseph Sexton" in Philadelphia (lvii. 172). In the issue of January 11, 1840, appeared this item:

"*The Daguerreotype.* The New York Observer has been favored with the sight of a large number of pictures from a collection of the exquisitely beautiful

There is no other evidence for it or description of it than the brief statement noted.

22. Drawing by the Chevalier Friedrichsthal, 1840. Not discoverable.

Evidence for this drawing is contained in a manuscript letter,[1] the writer saying that he made a sketch of the rock, and calling attention to the animal and the joining characters XV. He also made a second sketch, which "represents the almost extinguished remainders of probably as large an inscription as that on the Dydonrock, obliterated however by a much greater reaction of the salt water, being on a rock of nearly horizontal position, on the lowest part of the beach."

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results of this wonderful discovery, just arrived from Paris. . . . The collection is in the hand of M. Gourraud, a gentleman of taste, who arrived in the steam packet British Queen" (lvii. 312).

The issue of May 9 announced that "likenesses from the human face have been successfully taken by it" in Philadelphia; and the issue of May 30 stated that Robert Cornelius of Philadelphia "is now engaged, most successfully in making miniature liknesses, by means of the process designed by Mons. Daguerre" (lviii. 160, 208).

In March, 1840, M. Gouraud visited Boston, where his "collection of photogenic drawings" was exhibited privately on March 6, and publicly from March 11 to April 8. He also delivered lectures at the Masonic Temple on March 27, April 3 and 4, at the first of which he took "a beautiful view of Park Street, with the intervening trees, and part of the Common, covered with snow," and at the second "a fine view of the State House, from a front window of the Temple" (Boston Advertiser, March 7, p. 2/2; March 28, p. 2/4; April 4, p. 2/4). A communication from him was printed in the issue of March 26 (p. 2/2–3), and reprinted at the end of a 16-page pamphlet published in Boston the same year entitled "Description of the Daguerreotype Process, or a Summary of M. Gouraud's Public Lectures, according to the Principles of M. Daguerre. With a Description of a provisory Method for taking Human Portraits." This concludes with the words, "I will now say . . . that by adopting a confidential communication which I have received from M. D. G., the French Professor at Cambridge, since I arrived in Boston, I think it is very probable that we shall succeed in obtaining a Daguerreotype portrait in much less time than by the process above described." "M. D. G., the French Professor at Cambridge," was Anatole de Goy, Instructor (not Professor) in French in 1840–1841.

Finally, in the Boston Advertiser of April 6, 1840 (p. 3/2), appeared an advertisement of G. W. Prosch of 140 Nassau Street, New York, beginning: "The Daguerreotype apparatus of improved construction warranted to be correct, and better adapted to the purpose than the French, of which any reasonable person can be satisfied upon inspection. It is more portable and less expensive manufactured and for sale by the subscriber."

[1] No. 178.

This last mentioned rock is the well-known "slab." The sketches have not been preserved with the letter.

Friedrichsthal was attached to the Austrian legation at Washington. His visit to "Dydonrock" was made, he says, in company with Dr. Howe — possibly Samuel Gridley Howe, who in July, 1840, "made a journey to the Middle West . . . in the interests of the blind."[1]

23. Drawing of the alleged Roman or English letters in the central part of the inscription, by Henry R. Schoolcraft, August, 1847. Plate XXXV, xx. 316.

The circumstances of the making of this drawing have already been described, on page 334 above. The plate on which we present it shows also the combination of the 1789 and 1837 drawings which Schoolcraft published in 1851, and to both of which he naturally assigned slightly erroneous dates.

24. Daguerreotype by Captain Seth Eastman and a "professed daguerreotypist of Taunton," 1853. Plate XXXVI, xx. 324.

The circumstances under which this, the first photographic representation of the rock that has been preserved, were made, and the conclusions to which he was led, are related by Schoolcraft:

Having visited the locality of the Dighton Rock and examined the inscription, in 1847, its true character, as an example of the ideographic system of the Indians, was clearly revealed to my mind. I had no hesitation in adopting an interpretation of it made in 1837 [1839] by an Algonquin pictographist, called Chingwauk, in which he determined it to be their memorial of an ancient Indian battle. It was perceived that no exact representation of it had ever been made, and no new attempt to make one was attempted, being without proper apparatus; certain discrepancies were pointed out in Part I., Plate 36, of this work. These, after a lapse of six years, are indicated in a daguerreotyped view of the inscription, taken during the summer of the present year (1853). By this process of transferring the original inscription from the rock, it is shown to be a uniform piece of Indian pictography. A professed daguerreotypist from Taunton attended the artist (Capt. E.) on this occasion. . . . The lines were traced with chalk, with great care and labor, preserving their original width. On applying the instrument to

[1] L. E. Richards, Letters and Journals of S. G. Howe, ii. 102.

the surface, the impression herewith presented was given. [Previously depicted resemblances to Roman letters disappear; moreover] no trace appears, or could be found by the several searchers, of the assumed Runic letter Thor, which holds a place on former copies. Rock inscriptions of a similar character have, within a few years, been found in other parts of the country, which denotes the prevalence of this system among the aboriginal tribes, from the Atlantic to the Mississippi. It is more peculiarly an Algonquin trait, and the inscriptions are called by them Muzzinábiks, or rock-teachings.[1]

At least two daguerreotypes were made on this occasion. One of them came into possession of the Rev. Mortimer Blake, who moved to Taunton about 1856, was later owned by his son, the late Professor Lucien I. Blake, and was recently presented by the latter's brother, Percy M. Blake, to the Massachusetts Historical Society. The picture is of course mirror-wise reversed. It shows a man, probably Captain Eastman, coatless and wearing a tall hat, reclining on the rock, and therein differs from the one reproduced in Schoolcraft's plate. The former was evidently taken first, then a few unimportant lines were added to the chalking, the camera was moved a little further upstream, Captain Eastman assumed a different position on the rock, and the second exposure was made. In utilizing the latter for Schoolcraft's illustration, it was in some manner again reversed into a correct spatial depiction. The daguerreotype itself is not sufficiently clear to show the condition of the surface of the rock at the time it was taken, — of its features of texture, of scaling, of cracks, and the like, which might be of value to us in a study of the much debated question of the rapidity with which it is wearing away. Nothing shows with any clearness except the chalked lines. Consequently our reproduction is from the much clearer and spatially correct engraving, and not from the original daguerreotype.

This Eastman depiction of the inscription has been the one chosen for purposes of illustration by Bryant and Gay, 1876; F. S. Drake, 1884; McLean, 1892; Mallery, 1893 (page 86); Andrews, 1894.

25. Lithograph by George A. Shove, 1864. $6\frac{3}{4}$ x $9\frac{1}{2}$ inches. Plate XXXVII, xx. 332.

George A. Shove was a resident of Dighton, a descendant of the Rev. George Shove, minister of Taunton, who in 1677 became one

[1] No. 402.

DAVIS PHOTOGRAPH, SEPTEMBER 11, 1893

DAVIS PHOTOGRAPH, JANUARY 27, 1894

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

of the six purchasers and original proprietors of Assonet Neck. He was born about 1824, and was lame from his childhood. He held many responsible positions in town offices, and for a time was local postmaster. He was ingenious with tools, possessed a fair degree of skill as an artist, and had some gift as a writer. He died in 1890.

His lithograph makes no pretence at a full and accurate representation of the inscription, being intended evidently only to give a general idea of it and of the rock in its surroundings. There is only one figure in the sketchily traced inscription that is at all unusual — the double parallelogram with parallel cross-lines to the right of the picture of the animal. Besides the lithograph, Shove made at least one other drawing of the inscription that I have seen, which shows it in an even more simple and uninstructive manner. He also produced many paintings, practically all alike except that one set exhibited spring-time foliage and the other that of autumn, and practically all of them duplicates of the lithograph, including the inscription. A painting by him of the Landing of the Norsemen hangs on the walls of the Old Colony Historical Society.

26. Drawings by Edward Seager, 1864. 47 x 72 inches. Plate XXXVIII, xx. 342.

In 1864 Commodore George S. Blake, Superintendent of the United States Naval Academy at Newport, presented to the American Antiquarian Society these two drawings, which were made by Edward Seager, Professor of Drawing and Draughting at the Academy, assisted by the Rev. Charles R. Hale, Chaplain and Acting Assistant Professor of Mathematics. In March, 1865, Commodore Blake presented also to the society Mr. Hale's Essay on the Dighton Rock, bearing the date January 31st, 1865. Relative to the drawings, it speaks of two visits having been made, on the first of which the tide was unfavorable. "On a second visit, we had ample time, and every circumstance of light &c favoring us. From the careful sketches taken by us, Mr. Seager has since made the beautiful and elaborate pencil and India Ink drawings laid before you."

One of the drawings shows the rock and its surroundings, the other the rock alone, with its inscription. Winsor regards this as "the most careful drawing of late years;" and H. Cabot Lodge calls

it "probably the best drawing ever made." Its particular merit is the same as that of Kendall's painting and engraving, of endeavoring to present the actual appearance of the rock to the eye, without emphasis and interpretation of its lines, with all its actual faintness and uncertainty. Kendall's, I think, is more successful in this than Seager's. But of course a faithful photograph of the unchalked surface, better than any that had been possible up to Seager's time, would be a vast improvement over the method employed by these two men. The possessor of a drawing, however faithful, can see the inscription in only the one way, as the artist himself saw it. A perfect photograph enables its owner to engage in repeated and protracted study of the surface, to see constantly new things in it, to make his own interpretations exactly as if he were examining the rock itself. An approach toward such a photograph was the next representation of the inscription to appear.

27. Burgess-Folsom Photograph, by George C. Burgess and Augustine H. Folsom, July 1868. 9 x 13 inches, and stereoscopic. Plate I, xviii. 234–235.

The words concluding the description of number 26 are our chief comment on this valuable photograph. Several times in these papers I have called it the best, most trustworthy and most useful presentation of the inscription that we possess. This statement now has to be withdrawn because since it was written I have had the good fortune to discover a recently made one that is much better.[1] This fact, however, does not detract from the merit of the one under discussion, nor does it destroy its usefulness. In matters of dispute in regard to what characters are on the rock, all earlier depictions enable us to say only that some one did or did not see them there; but this is the first made of all depictions that makes it possible for us to study out the matter for ourselves and arrive at an independent opinion. While this purpose can be served to even better advantage by the later photograph, yet the use of the two, taken with an interval of forty years between them and in somewhat different conditions of lighting, is helpful. Comparison of the two throws light on the question as to the rapidity of erosion. In the event of the propounding of a new theory concerning the shape and the meaning of the

[1] See number 39, p. 394, below.

markings, decision based on the one may be confirmed by aid of the other, and appeal to the earlier of them alone can settle decisively any suspicion as to recent introduction or alteration of lines. No drawing possesses any of these advantages, naturally. But it is also true that the photographs based on chalking do not possess them either. The chalking not only prevents an independent judgment as to whether the lines chalked are really there, but also in most cases obscures the independent seeing of lines that have not been chalked. We are fortunate, then, in having these two unbiased photographs, and in still possessing the earlier as well as the later.

At first there was little to be learned concerning the production of this photograph. The Proceedings of the Massachusetts Historical Society mentioned the fact that on February 10, 1869, a stereoscopic photograph was presented to the Society by George C. Burgess of Dighton. The Society still possesses not only this stereoscopic view, the dedicatory writing on which shows that it was taken by Augustine H. Folsom, a photographer of Roxbury and Boston, but also a large photograph, measuring 9 by 13 inches, presented by Mr. Burgess on December 24, 1868. Duplicates of the latter I have found also in the Gilbert Museum at Amherst College and in the Rhode Island Historical Society. The latter possesses the stereoscopic form also. The two halves of the stereoscopic arrangement are identical, instead of having the typical and desirable difference necessary for production of the full stereoscopic effect.

Mr. Burgess was a graduate of Harvard of the class of 1858, after that a school-teacher in Dighton. In 1868, however, though living in Dighton, he went daily to Boston, where he was in charge of the salesrooms of the Dighton Furniture Company. He is said to have once delivered a lecture on Dighton Rock. Mr. Folsom I was fortunate enough to discover in 1916 still carrying on his photographic business. From two letters that I received from him I select the following details:

I am the same A. H. Folsom who took the photograph. I think you are right about the time being 1868. It was only a short time after going into business, and I started out in August, 1865. I took the view in summer; I think it must have been in July or thereabouts, as I remember having some fine strawberries, picked in Dighton, when I had dinner with Mr. Burgess. I remember very distinctly the circum-

stances. Mr. Burgess had the rock scrubbed off with scrubbing brush and sea water to remove the slime and seaweed that had grown on it. There was no chalking or working it up at the time that I remember. As to the original markings being cleaned out with a stone or sharp instrument, I do not know; but when I got there, the rock was all ready for me, and I don't remember of the lines looking *fresh* at all. I had to make the original pictures at low tide, and even then I stood knee deep in the water to get the proper distance. I can remember all about it as plainly as if it were yesterday, and I am now 71 years old and still in the business.

After I made the first pictures for Mr. Burgess, he ordered a thousand stereo-views, and as there were so many prints to be made and only one negative, I copied several negatives I think from the larger picture. As they were so much smaller and indistinct, my impression is that I took a large print and traced out the "inscriptions" with white ink on it, so that it would copy plainer. I really don't remember whether I took any double stereos or not at that time. I had a stereo camera in 1868 and made many views with it, but seldom carried but one size on a trip, usually the larger size.

In case of the stereo-views that I have seen, it is clear that Mr. Folsom did not emphasize the lines with white ink, and that he did not use his stereo camera. I think it is furthermore safe to assume that the lines on the rock were not even lightly chalked or otherwise freshened into more than normal visibility.

28. Davis-Gardner Stereoscopic View, by Captain Nathan S. Davis and William B. Gardner, 1873. Plate XXXIX, xx. 352.

This photograph and the next following caused me a great deal of uncertainty and confusion for a considerable period, which led to much correspondence and investigation before the facts were sifted out. Partly through positive and sometimes conflicting statements in the literature, partly through natural inference from such statements, and partly through hints and rumors and facts communicated by correspondents, I have had to entertain the possibility that photographs had been made by twelve distinct persons: Captain J. W. D. Hall, T. W. Higginson, L. I. Blake, A. M. Harrison, an unnamed "agent of the U. S. government" whose photograph of the rock was on sale by the Scandinavian Memorial Committee, George M. Young, Elisha Slade, an unknown person to whom was due a cut

published by Löffler, the Rev. George W. Penniman, Captain Nathan S. Davis, William E. C. Deane, and William B. Gardner. My first start toward a successful solution of the tangle resulted from an endeavor to discover the author of an entirely different photograph. In the end, all the facts and rumors settled down into the certainty that there were but two occasions involved, each with its own separate whitening of the lines on the rock, and that all the photographs in the tentative list were made from either the one or the other of these two interpretations of the lines, or through re-photographing one of the photographs so produced.

I have seen but two photographs, both of them stereoscopic, made on the earlier of the two occasions. One of them is in the Harvard College Library, the other in the Rhode Island Historical Society. Captain Nathan S. Davis of Somerset has furnished me with the facts concerning it:

I cannot be sure of the year when this photograph was made, but would rather place it at '73 or '74 than later. I was postmaster of Somerset and much interested in stereoscopic work. William B. Gardner was a travelling photographer, going with his covered wagon as a darkroom from town to town making local views. He drifted in to Somerset and came to see me as the one most likely to be of use to him. I mentioned the Dighton Rock, of which he knew nothing previously. We went to the rock together with the fixed purpose of making the best and most nearly perfect photograph of it that could be made; and we had plenty of time at our disposal. No one else was present. After washing the written face, I found that a small pointed stone held like a pencil in my fingers would go to the bottom of the lines cleaning them out and leaving a mark behind much resembling chalk; but not a bit of chalk was used. We made several exposures. Gardner made photographs and mounted them on cards with his name on them. As I had one or more of the original negatives, some little later I made prints and mounted them on cards bearing my name. Somewhere near the time of making this photograph Gardner moved his family here.

One of the two known copies mentioned above bears on the margin of the face Gardner's name with address given as Sherborn, Mass., and the printed legend: "Runic Inscription on Dighton Rock." The other lacks these features, but has on the back a long printed description attributing the inscription to the Norsemen. Mr. Gardner's

daughter informs me that he moved from Sherborn to Somerset sometime between April and June in 1874. Since the printed matter on the mounts indicates that he was still living in Sherborn when he took it, and since Davis confirms the fact that he had not yet moved to Somerset, it seems probable that it was in 1873 rather than in 1874 that this event occurred.

I know of no former reproductions of this photograph in the literature of the rock. It is here presented in its original form and size, in order that our plates may include one view of the rock that may be used to give the stereoscopic effect.

29. Harrison-Gardner Photograph, by Captain A. M. Harrison and William B. Gardner, about September 15, 1875. Plate XL, xx. 362.
    a. Stereoscopic View of the rock alone.
    b. Stereoscopic View including five persons.
    c. 8 x 11 Photograph.
    d. 4 x 5 copy from the original by William E. C. Deane, about 1882.
    e. 5 x 8 copy from the original by George M. Young, 1890.

This was made under direction of Captain A. M. Harrison of the United States Coast Survey, who at the time was engaged in making a survey of Taunton River. I have seen several complimentary copies signed by Harrison bearing date September 15, 1875; hence it was taken shortly before that date, unless the date indicates the time of taking instead of that of presentation. A number of persons participated in the process. One of them was Captain Harrison himself, who signed a statement that has been printed on many of the cards on which these photographs were mounted:

> Having been present when the above picture was taken, I can certify that no hieroglyphic marks were "chalked" which were not clear to the eye, (though too obscure to copy plainly upon the negative,) and that special care was taken to avoid making any line more distinct where there was the least room for doubt. I think that there can be no question that there were originally many more characters cut upon the Rock than appear in the photograph, particularly at the base, where it has been for centuries exposed to the action of the tides.

In addition to this statement, the printed matter on the mounts included a lengthy exposition by Gardner of the Norse origin and

Rafn's translation, similar to the one that he used on the Davis-Gardner version.

In a letter of December 17, 1875, from Elisha Slade of Somerset to R. B. Anderson, the assertion is again made that "no chalking was made where the cutting in the rock was not plainly visible to the eye, and many markings partly obscure were not touched."[1] Anderson is authority for the statement that Captain Harrison was preparing a History of the Northmen. Apparently this has never appeared. He did, however, report to the United States Coast Survey concerning his topographical work, and "the immediate vicinity of Dighton Rock was also mapped separately on a large scale, and such particulars concerning it as Mr. Harrison was able to gather by incidental research were embodied in a separate paper and filed in the office."[2] This separate paper cannot now be discovered, either in the files of the Survey, or in the Smithsonian Institution, or in the Library of Congress.

The date of this photograph is often given wrongly as 1876. The only copy of the plain stereoscopic view that I have seen is in the Harvard College Library. Of the other stereoscopic view I know only through a copy loaned to me by Edward F. Waldron of Dighton. This shows five men grouped about the rock, and Mr. Elisha Slade informs me that, in order from left to right, they are: "Beoni Bradbury, William B. French, A. M. Harrison, Elisha Slade, and Mr. Lockwood. All but myself were of the U. S. Coast Survey, Mr. Harrison in charge of the party. The latter died in 1880." It is clearly from this stereoscopic photograph that was derived a small cut, the source of which long puzzled me, used by Ernst Löffler in his paper on the Vineland Excursions. The large photograph has doubtless been more widely distributed than any other depiction of the inscription. It has been used as the basis of illustrations by T. W. Higginson, 1882; Old Colony Historical Society (in a leaflet on the rock, after Higginson); George A. Shove, 1883; F. S. Drake, 1885; Baxter, 1889; William A. Slade, 1898; Harper's Encyclopædia of United States History, 1901; E. Hitchcock, 1904; K. M. Abbott, 1904; Avery, 1904.

The large Harrison-Gardner photograph was itself photographed,

[1] Nos. 419, 420.

[2] No. 222.

in 4 by 5 size, probably at some time between 1882 and 1884, by William E. C. Deane, now of Taunton. I have a letter from him in which he says: "I borrowed a picture from Capt. Davis, copied it, and sold the pictures at Dighton Rock Park." The mounts bore a statement about its runic character, similar to that used by Gardner.

In his paper prepared for the Peoria Scientific Association in October, 1890, the late George M. Young[1] of Boston claimed to have photographed the rock; and he sent a copy of the photograph to the Association. The Peoria Public Library kindly loaned me the photograph for examination. It is identical, except in size, with the Harrison-Gardner production, and could have been secured only from the same chalking. I was also presented with a copy of the same photograph by Mr. Young himself in 1916. On my remarking that it looked much like the Gardner photograph of 1875, he assured me that he took it himself in 1890, and that the rock was not chalked. Evidently he was mistaken in both statements. I think it very probable that he actually visited Dighton in 1890, possibly took some amateur pictures of the rock, secured also a Harrison-Gardner photograph, copied it on a 5 by 8 plate, and used that afterwards as his own photograph, very likely forgetting the circumstances of its production. It is another illustration of the errors so many of which have been carelessly and unintentionally made concerning our rock, and another example of an alleged independent reproduction traced to its actual source.

30. Plaster Cast by Lucien I. Blake, 1876. Plate XLI, xx. 372.

In an earlier paper[2] the evidence was examined as to the existence of other alleged casts, and the conclusion was reached that, although probably at least one other had been attempted, yet otherwise the reports were mistaken. Concerning this one, which is now in the Gilbert Museum at Amherst College, the late Professor Blake wrote to me in 1916:

I took the plaster cast of the rock myself in the summer of 1876, when I was a Junior in Amherst College. The exact date I do not re-

[1] In 1890, Mr. Young was proprietor of a crockery and glassware store. Later directories list him as justice of peace and notary. On his business cards he also called himself a "Compiler and Special Writer." He died January 15, 1918.

[2] Our Publications, xix. 63. See also no. 219.

call. I was assisted by Louis B. Dean of Taunton, then a Sophomore at Harvard, since deceased. We rowed down the river from Taunton with a barrel of plaster of Paris and took the cast at four o'clock one morning, when the tide was out, after cleaning and oiling the face of the rock. We had to take seven sectional plates to get the whole surface. From these reliefs, I made afterwards the cast now at Amherst.

As a boy I had frequently visited the rock and felt that a coffer dam was impracticable on account of the ice and tides covering the rock; and I remember suggesting that the rock be taken up bodily and put in some museum. I then found that it is not a boulder, but an exposed part of a ledge, and there were no funds available for such expensive work as slicing off a ledge.

A photograph of the cast was taken in February, 1894, and is preserved in the manuscript catalogue of the Gilbert Museum. It is this which is reproduced in our plate. It shows clearly that the cast was very successful, exhibiting with much accuracy the details of texture of the rock's surface as well as the lines cut into it. If Kendall was right in his belief that some of the lines of the inscription are now observable rather through differences in coloring on the rock itself than through depression of the surface, these of course do not leave any traces on the cast. The general surface of the cast has been colored a uniform slate or drab, and on it the prominent lines have been emphasized by means of a bluish paint.

31. Photograph by Frank S. Davis, September 11, 1893. Plate XLII, xx. 382.

The date is marked on the rock. See number 33.

32. Photograph by Frank S. Davis, January 27, 1894. Plate XLII, xx. 382.

The date is marked on a wooden slab placed by the side of the rock. See number 33.

33. Photograph by Frank S. Davis, early in 1894. Plate XLIII, xx. 392.

This is another photograph whose authorship was difficult to discover. A copy of it in possession of Mr. William Carnoe of Freetown was the first representation of the rock I had ever seen, except an illustration in some history, probably Lossing's, when I was a boy.

He could not tell me who made it. Later I found it reproduced as an illustration to Cyrus Thomas's account of Dighton Rock in Hodge's Handbook of American Indians, 1907, and again accompanying a paper describing the rock by William H. Holmes in 1916. Successive letters were written to persons in Washington, in Dighton, in California and in Florida in following out the clues; and then I at last discovered that my nearest neighbor on Assonet Neck was mother of the artist and the far-flung search ended almost at my door-step.

Mr. Davis, who now lives in Florida, wrote to me all that he could remember about these three photographs:

One of them is dated September 11, 1893; the other two were taken the winter following. I do not remember to have copied any previous photographs or drawings in making my markings on the rock. Going back to my school days, I can remember going to the rock and taking chalk and marking in the lines. There would be a number of us and we would all work at it and talk about what they were put there for. So you see I had seen the lines marked in a good many times. Then in after years I got a camera and got quite interested in taking pictures. One of the photographs I made for some one who was writing a book at that time, but cannot remember the name of the writer or that of the book.[1] I expect that I marked quite a few lines on the rock which were never put on by the maker; also that there were quite a few marks put on by the maker which I did not mark in. The rock was so worn away that it was very hard to trace the markings, and not knowing what the figures were one had to use his own ideas in connecting the markings. You will notice the one taken in September is not as complete as the one taken later; possibly it is nearer right than the one taken the following winter which I tried to fill in more. The marks low down on the photo I do not think amount to much.

The three photographs here listed are given separate numbers because they show separate chalkings. The first of them exists in two varieties, the one taken from a nearer point than the other. The last has three varieties: the one that has been published in the two cases mentioned above; a similar one taken from a slightly different position; and a third, the one here reproduced, taken after a few further chalk-marks had been added to the rock.

[1] It may have been C. Thomas's account of the rock in Hodge's Handbook.

DAVIS PHOTOGRAPH, 1894

CHACE POST-CARD, ABOUT 1900

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

34. Post-Card issued by Charles W. Chace, about 1900. Plate XLIII, xx. 392.

Mr. Chace, who was born in Dighton, has long had these postal cards for sale at his place of business in Taunton. Since about 1905, they have been issued in colors. Concerning the photograph from which they were made, he can tell me only that it was made "about fifteen years ago by a young man who worked in a wheelwright shop at Westville; but he left for parts unknown several years ago."

35. Old Colony Historical Society's Photograph, June, 1902. Plate XLIV, xx. 402.

The late James E. Seaver, secretary of the society, informed me that this was taken under his supervision in June, 1902. In preparation for it the rock was first carefully cleaned and chalked. The photographer was A. L. Ward of Taunton. Mr. Seaver had invited a number of men to be present and assist him in the selection of the lines to be chalked. Two photographs were taken, one of the rock alone, the other showing the persons who were present. These persons, in order from left to right, he named as Joshua E. Crane, librarian, of Taunton; John O. Babbitt of Dighton; William MacDonald, Professor of History at Brown University; James E. Seaver; Ralph Davol of Taunton; Professor Crosby of Harvard (whom I cannot identify); Mr. Negus of Dighton; C. A. Agard of New Bedford.

The photograph has been reproduced in the Providence Journal, July 15, 1912; and in the report of the Dighton Bi-Centennial Celebration, July 17, 1912.

36. Drawing of the Shoreward Side of the Rock and its Markings, by Charles A. Fernald, 1903. Figure 5, xx. 366.

This is the date of Fernald's visit to Assonet Neck, according to the person at whose house he passed the night. The drawing was published in the Fernald Genealogy.

37. Photograph by Charles R. Tucker, August 1903. Plate XLV, xx. 412.

This is a small amateur photograph, with conservative chalking, concerning which its maker, of New Dorp, New York, writes me:

"The characters were not plain and I was careful not to chalk any that I could not readily see."

38. Photograph by Carlton Grinnell, about 1907. Plate XLV, xx. 412.

This is another small amateur photograph, presented to me by Edward F. Waldron of Dighton, a cousin of the maker. I know nothing further about it.

39. Photograph by Charles A. Hathaway, Jr., July, 1907. Plate XXXII, xx. frontispiece.

The original is an 8 by 10 negative, taken under excellent conditions of lighting and expert manipulation. It is very nearly a perfect photograph, much superior to any other ever taken. It has the exceptional merit of showing the rock as it actually is, without any kind of artificial emphasis of the lines upon it. Apart from varying conditions of lighting, which do serve to some extent to make some lines more readily observable at one time and others at another, study of this photograph is more profitable than study of the rock itself. Its further advantages have been dwelt upon at greater length in discussions of the Burgess photograph, number 27.

Mr. Hathaway is a teacher of science in the Taunton High School. For his permission to reproduce this unsurpassed representation of the rock I cannot express too strong an appreciation. Concerning its production, Mr. Hathaway informs me:

I believe I made that particular negative with a Collinear anastigmatic lens of about 8 inch focus. Of course almost any good lens would give a sharp negative. The peculiar lighting is what is important. I chose the time of day and year that I thought best adapted to my attempt. It was in July, and during the late forenoon, as nearly as I can tell at the present time. I wished to show the characters without any chalk marks. The sediment in the grooves and cracks was not disturbed, and aided in bringing out the surface inequalities. I washed off and brushed off the growth of algæ on the very base of the surface.

40. Eddy Photograph, by William P. Eddy and Frank N. Ganong, August, 1908. Plate XLVI, xx. 422.

Mr. Eddy is owner of the Eddy House in Dighton, and secured this $3\frac{1}{4}$ by $4\frac{1}{4}$ photograph for use in his prospectus. The photographic work was done by Mr. Ganong, a professional photographer,

then living in Cambridge. Mr. Eddy himself did all the work of cleaning and chalking the rock.

41. Post-Card by G. K. Wilbur, 1913. Plate XLVI, xx. 422.

Mr. Wilbur is manager of Dighton Rock Park, which is not at the rock itself, but across the river, below Dighton village. The negative was made for him in the fall of 1913, by a photographer whose name he does not recall, and the lines on the rock were marked not with chalk but with plaster of Paris. The post-cards, of which there are two, differing only in size, are in colors, and were produced in Germany. The same picture, uncolored, is printed at the head of the prospectus of the Park, which endorses without qualification the Norse claim for the rock.

42. Photographs and Sketch by E. B. Delabarre, March and April, 1919.

My own recent and still incomplete studies of the inscription have suggested certain new assumptions as to some of the characters, which will be found exhibited in Figure 7 on page 416, below.

Until a new theory occurred to me during the course of last winter as to what some of the characters might be, I believed that, with the splendid photographs by Burgess and by Hathaway at our disposal, we had ample material for an exhaustive study of the rock. Now I realize that we cannot feel entirely confident that we have detected every observable feature of it until we have photographs showing it under a wide variety of conditions of illumination. The need of this is well illustrated by a number of photographs that I took on April 13, 1919, using a Protar VIIa lens. They show minute detail and are perfect photographs for the particular illumination secured, but are in no way better than the Hathaway photograph. Comparing them with the latter, it becomes evident that lines that are perfectly clear and indubitable in one condition of lighting may be indistinct or wholly invisible in another. For this reason there would be very little advantage in adding one of these new photographs to the collection illustrating this paper. What we need is a complete series of them. Study of the rock itself, with all of its inconveniences, or of any photographs

taken under ordinary conditions, will not suffice. To enable us to discover all that the rock is now capable of revealing, we must have it photographed from different angles and illuminated in turn from each of a number of different directions; sometimes with the light shining full upon it, and at other times glancing along its surface in such manner as to throw its elevations and depressions into strong relief. The sun does this latter once each day, but from one direction only. The ideal presentation of the rock's appearance, therefore, by means of such a series of photographs, can be accomplished only by aid of artificial illumination, and is a task yet to be undertaken.

In judging the appearance of any photograph, one fact should be borne in mind. A considerable portion of the rock's surface is sometimes irregularly covered with a thin greenish marine growth forming a smooth-appearing, closely adhering film or stain when the rock is dry. From a small specimen submitted to him, Professor J. F. Collins of Brown University describes it as a mixture of various species, probably not less than fifteen in all, of green and blue-green algæ and diatoms. At the date above-mentioned I found the upper part of the face relatively free from it, but much of it to the right of and below the alleged word "Thorfinx." In some cases it seems to adhere especially to lines that are apparently artificial and yet little if at all indented, and thus to render them more distinct. In many other cases, however, it probably makes faint lines more obscure. By early June of this year such growths had wholly disappeared. Later in the summer, if I remember rightly, they or growths of other character again adhere thinly to parts of the rock. Some photographers attempt to scour away this growth; others leave it untouched; and its presence or absence must considerably affect the result.

Minor Reproductions. — In searching for all the representations of the rock and of the marks inscribed upon it that help to throw light upon what is really there, or illustrate the psychology of individual perception, I have found a few instances where the rock has been pictured that are of no importance for these purposes, but deserve mention as indications of the interest taken in the relic. For instance, the Bangor Daily Commercial of May 21, 1897,

gives a cut after the Bartlett Sketch, and says that the Frances Dighton Williams Chapter of the Daughters of the American Revolution has on its badge a representation of the rock. I am told that in the early '80's there was a Dighton Rock Stove Polish made in Taunton, whose wrapper bore a picture of the rock. The envelope in use by the board of tax assessors of Dighton has on it a cut showing the rock bearing the inscription according to the Eddy version, and beyond it on the shore a group of wigwams under a tree. It is reported that a newspaper called the Dighton Rock was once published in Dighton. At least one artist besides George A. Shove has pictured the rock, — Frank T. Merrill, of whose work I have seen one example entitled "Indians chiseling Dighton Rock." The Maine Historical Society has a number of copies of the inscription, but including none that have not been listed here. The New England Historic Genealogical Society possesses a tracing cloth on which are copies of the nine drawings of the Antiquitates Americanæ and one of the Harrison-Gardner photograph. Doubtless there are numerous other cases belonging to this minor list, — these are all that have come to my notice.

Views of the Rock showing its general situation and surroundings, but not showing any of its artificial markings. — Many of these have been made. The best one of which I have knowledge was taken at about mid-tide, by Professor Charles W. Brown of Brown University on May 15, 1915, using a Zeiss Tessar lens. I have his kind permission to reproduce it in advance of his own probable use of it, and present it as Plate XLVII, xx. 432.[1]

The Writer's Own Investigations

My own interest in this research was the direct consequence of having acquired a summer home on Assonet Neck, within a mile of the rock. This led slowly to the realization that the region had other

[1] Besides the Rock, this photograph shows several other features of interest. In the middle background is Grassy Island, several times referred to in this study. To the left of the island and the rock is Taunton River, coming down from the north near the extreme left of the picture. Leftward from and beyond that point is the upper part of the village of Dighton. Rightward, the land in the background is in the town of Berkley, the water is Smith's Cove, and the foreground is Assonet Neck.

than scenic and rural charms. My first inquiries into its history began in the summer of 1914. During the following autumn and winter my reading on this subject led naturally into the development of a particular interest in the literature of Dighton Rock, and thus gradually into the discovery of its problems and of the inadequacy of existing treatments of the subject. Each summer since then, I have made some observations on the rock itself. These have included some study of the inscription. But concerning that I regard my contributions as having as yet but little value, and shall have little to say. Of the results of some other investigations, however, a brief outline may be permissible.

(*a*) Has the rock always been at its present level, between high and low water? Some authorities whom we have quoted call attention to the fact that the Indians often made inscriptions on rocks that are subject to submergence. Kendall and Squier are examples. But as long ago as Greenwood's time "some of undoubtible veracity" asserted that the river had been encroaching upon the shore, or that, as James Winthrop reported fifty years later, the inhabitants had dug around the rock, and thus let in the tide upon it.[1] The implication is that without any change in the level at which the rock stands, or to which the tide rises, these processes permitted the water to overflow the rock. This, as both Kendall and Haven have pointed out, would be absurd unless in the process the rock had been undermined and thus caused to sink to a lower level, for which there is

[1] The most extraordinary statement of this character was made by Jerome V. C. Smith, later mayor of Boston, in a letter to Rafn dated June 15, 1842:

"I am satisfied from a careful examination, that the rock once stood on the dry land, perhaps 20 rods from the water, but the river has gradually forced itself against the eastern bank, or Berkley side, and actually excavated the land, 'till the rock has nearly gained the middle of the river at high tide. A boy who went as a guide, assured me that the river gained a little every year upon the Berkley side, which convinced me that my theory in regard to the original location of the rock was right. At the present rate of washing, it is not improbable that within the next 50 years it will be entirely out of sight, in the very centre of the channel" (no. 427).

Smith's boy seems to have been cast in much the same mold as that used later in constructing the one who told me his wonder-tales. Smith's accuracy will be appreciated when the reader is informed that the furthest reach of the tide does not exceed 75 feet beyond the rock, and that, as measured on the unpublished A. M. Harrison charts of 1875, in the office of the United States Coast Survey, the river is 1500 feet wide at this point.

no claim and no evidence. The only other possibility permitting a belief that the rock was free from overflow when inscribed is that the level of the river and of its tides has changed relatively to the land. This might happen either through a rising of the river's level, for which there appear no discoverable causes, or through a subsidence of this part of the New England coast. Babcock alone, of writers on Dighton Rock, has maintained that there has been such a subsidence, due to post-glacial influences and still continuing. He attempts to give proofs of it, and to infer from it the aspect of the coast in the time of the Northmen. Professor Charles W. Brown, of Brown University, informs me that the evidence for recent submergence in this particular region is still so inconclusive that geologists do not agree in accepting it as an established fact. Charles A. Davis,[1] as a result of studying the salt-marsh formations near Boston, seems to have presented the strongest indications in favor of it.

One of my investigations has a bearing on this question. A number of years ago two residents of Dighton dug out at Grassy Island,[2] lying in Smith's Cove about fifty rods from Dighton Rock, what they described as a large pocket of Indian relics. During the summer of 1918 my own search uncovered there a number of widely distributed small Indian implements such as arrow-heads, stone knives, flakes and the like, lying at a level now buried under from $2\frac{1}{2}$ to $3\frac{1}{2}$ feet of salt-marsh peat, whose upper surface is submerged under the highest tides.[3] While the upper surface is practically at a uniform level this implement-bearing stratum slopes gradually, with a grade of perhaps one foot in 200, so that it is least deeply overlaid with peat toward the northerly end of the island. The implements are scattered here and there irregularly along at least 200 feet of the western edge of the island, and they doubtless extend beyond the limits thus far explored. From their character and distribution, it seems almost certain that the level on which they lie must have been a dry and habitable land surface at the time when they were deposited. Supposing it to have been at least two feet above the

[1] In Economic Geology, 1910, v. 623.

[2] Visible in the middle background of Plate XLVII.

[3] Since then I have found also an adze, a small broken pestle-like stone, and several holes filled with decayed organic material, reaching down nearly two feet into the former surface, some of them the remains of small trees, others of stakes driven into the ground as parts of an ancient weir, dwelling or other structure.

reach of high tides when Indians dwelt there, there must have been a subsidence of the land of at least $5\frac{1}{2}$ feet since that epoch; and if Dighton Rock then stood where it now stands, it was above the reach of the water at a time when Indians were living in the close vicinity.

Can we form any estimate as to how long ago that was? Only with a great deal of uncertainty. I have found broken pieces of crockery under 15 inches of salt-marsh peat on a beach in front of a house on Assonet River that is just about 100 years old. That may indicate a rate of growth of the peat in that particular place of about 15 inches in a century. This is not far from the cautious estimate given by Mr. Davis: "The rate of growth of the peat has not yet been determined, but it is probably slow, perhaps less than a foot in a century." In a footnote he adds: "Mr. J. R. Freeman gives the rate of subsidence as determined by comparison of old bench marks as about one foot per hundred years." Accepting the latter estimate, the habitable character of the level on which these relics lie ceased about five or six hundred years before subsidence ceased. My own crude observations had led me to believe that about Assonet Neck there had been no subsidence since about 1600. I based the deductions on the estimates of acreage of the many salt meadows about Assonet Neck and Assonet Bay when they are first mentioned as compared with the present. The present widely extended mud-flats in the Bay would have been salt meadows three hundred years ago if they were then three feet higher than now, making the meadows then much more extensive than at present. Yet so far as can be judged from the early descriptions, their acreage is practically unchanged.[1] The dividing line between meadow and upland, wherever it can be inferred for former times from early descriptions or from old stone walls, appears likewise to remain as it was. It is hardly believable that the interworking of the land-reducing influences of subsidence and erosion and of the land-upbuilding influence of peat-growth can have been so evenly balanced as to leave the limits of the meadows un-

[1] I find definite early estimates ranging from 200 to 260 years ago, for about half of these meadows, involving about fifty acres in all. By measurements on the large scale A. M. Harrison charts of 1875, and by recent pacing of most of the boundaries, which in all of these cases can be identified from old descriptions with practical certainty, I am led to believe that there has been no appreciable change. But such comparisons cannot be exact enough to be decisive.

altered. This could happen under continuing submergence only if the meadows were bordered on the one side by abrupt upland banks and on the other by abrupt descent into deep water. The conditions are quite otherwise. The strongest consideration is the first one mentioned: that three feet of higher level, or even two, would have so raised the present mud-flats that it would seem that they must necessarily have been wide meadows; and instead of a broad Assonet Bay, which is mentioned by name at least as early as 1648, there would have been only a relatively narrow river. Grassy Island is an exception to the unaltered size of the meadows, having been estimated at three acres when first mentioned, and now possessing but little more than an acre. But in this case the change has been due to the crumbling of its banks through erosive influences. It was a fully formed salt-marsh island when first known to the settlers, about 1640, and seemingly at its present level. These observations have some pertinence, but are not conclusive. Possibly the subsidence still continues. If the latter supposition is true and the rate of subsidence about as suggested, then the Indians dwelt on the implement-bearing level, and Dighton Rock was entirely above water, about A.D. 1350. If my own guess is nearer the truth, the date for these conditions would go back to A. D. 1050 and earlier. If, however, the implements, including chips, may have been deposited on a tide-swept beach instead of on a level at least two feet above the reach of the water, the dates would have to be advanced some 200 to 400 years. And if, on the other hand, the subsidence ceased long before 1600, the date would have to be moved correspondingly further back. There may be other explanations for the observed phenomena, and consequently neither the fact of subsidence nor the estimates of time can be regarded as established. They are slight indications that may eventually be useful in the solution of a very interesting problem.

(*b*) Shape, weight and underground measurements.

I was led to these investigations because of a belief sometimes met with, to the effect that the rock is not a boulder, but an outcropping portion of the bed-rock. It will be remembered that Professor Blake wrote me that he had found that to be true. How he discovered it, I never learned. I am now sure that it was not through personal investigation, but as a result of hearing the tale that is the single source probably of all such impressions, and that is related by Nils

Arnzen. In a report made October 15, 1889, to the Old Colony Historical Society, he said:

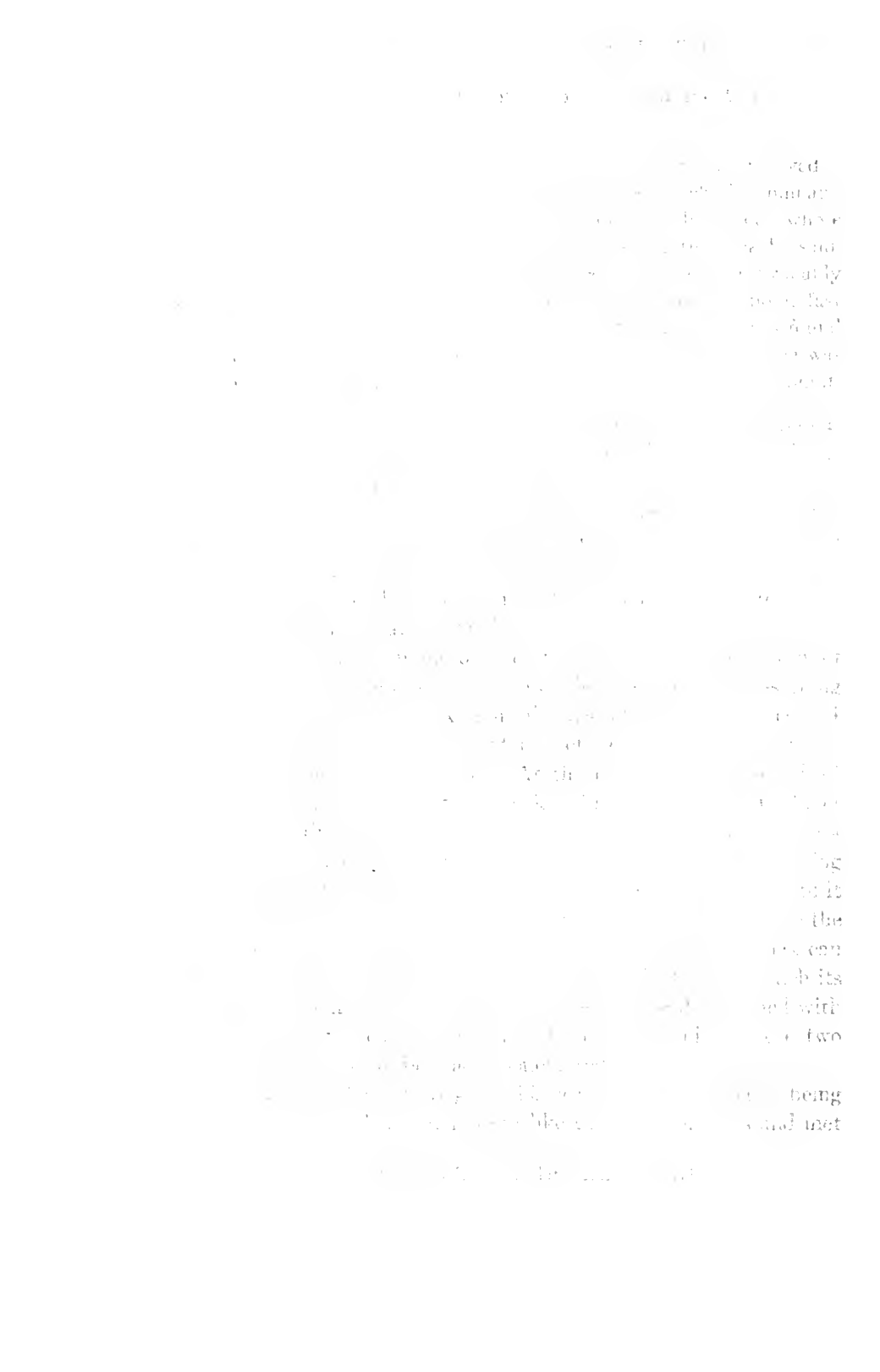
> The idea entertained that the rock was a boulder has received a check. A member of your committee visited the rock, in company with a gentleman of large experience in handling such objects, whose opinion of the subject is second to none. On seeing the rock he said, "This is not a boulder, but a part of a ledge. The rest can probably be found over in the woods with a dip toward the river, and if fast thereto, no power can move it." And in less than 200 feet was found the "ledge" as he supposed. On farther examination, he said, he was sure that it rested on the ledge though it may not be inseparable from it.

As a matter of fact the rock is a boulder resting in a peculiar position on one edge in the mud and gravel of the river bed. A near-by rock [1] four feet beyond, projecting above the beach only about fifteen inches, has such a slant of its upper surface that the basal edge of Dighton Rock probably rests upon it at its upstream end only. Another small boulder, 12 by 25 by 30 inches, resting in the angle between the two under the beach-surface, prevented thorough exploration at this point.

I have dug down at numerous points all around the periphery of the rock, as far as the brief recession of the tides and the in-seeping water would permit — a maximum distance of about three feet. I found it possible, however, to extend actual measurements on account of a peculiar circumstance. At the beach level the soil is of course packed firmly against the rock. But at a point $1\frac{1}{2}$ to 2 feet below, the earth shrinks away from contact with the rock, forming a narrow cavity, one to two inches wide, through which a measuring stick can easily be pushed for a distance of three to four feet until it meets hard-pan, not ledge, again in contact with the rock. Since the underground surfaces run in practically straight lines, the stick can be kept in contact with the rock, and although it does not reach its extreme lower edge yet the angle of slope can be determined with a high degree of accuracy and thus the meeting point of the two underground slopes can be readily calculated.

The shoreward slope above ground is very irregular, probably being much worn and broken. If it were like the other surfaces and met

[1] Visible to the left of Dighton Rock in Plates XLII and XLIV.



OLD COLONY HISTORICAL SOCIETY PHOTOGRAPH, 1902

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

them at similar angles, the rock would be a fairly regular elongated prism with four faces meeting approximately at right angles, the faces being nearly plane surfaces. A vertical cross-section in the middle would thus be almost a perfect square, measuring 7 to 8 feet on each side, placed in a diamond-shaped position with an angle underneath. The actual shape differs, however, in that the front surface underneath is slightly and rather complexly curved and warped, and the rear upper surface irregularly convex; and in the position of the shoreward or rear face, whose average slope I calculated as forming an angle of 65° to the vertical, and as meeting the upward prolongation of the inscribed or front face at a point $9\frac{1}{2}$ inches above its actual termination. Using this average rear slope instead of its actual irregularities, the existent cross-section has measurements as follows:

Front slope above ground (inscribed face): Actual linear extent, 4 feet 10 inches; prolonged upward to meet average rear slope, 5 feet $7\frac{1}{2}$ inches. Angle to vertical, 39°. Angle to average rear slope, 104°.

Front slope underground: Linear extent, 7 feet. Angle to vertical, 45°. Angle to inscribed face, 96°.

Rear slope underground: Linear extent, 8 feet. Angle to vertical, 46°. Angle to front slope underground, 91°.

Average rear slope above ground: Linear extent, 7 feet $9\frac{1}{2}$ inches. Angle to vertical, 65°. Angle to rear slope underground, 69°.

I have made further measurements at the two ends and at some intermediate points, but it would be undesirably complicating to introduce them here.[1] On their basis, and assuming the average length of the prism to be 11 feet, I calculate the cubic contents of the rock at about 480 cubic feet; but this estimate must be taken as approximate only, because the irregularities of shape make accurate determination difficult. The specific gravity of the rock is 2.7, as determined for two specimens broken off from it. The total weight, therefore, must be not far from 40 tons. Previous estimates of its weight have been: by Kendall, 5 to 6 tons; by Elisha Slade, 10 tons (above ground); by the Rev. Frank E. Kittredge, 50 tons; by Jerome

[1] Some additional measurements of the above-ground portions made by previous observers and probably as reliable as any that could be given were mentioned in my second paper (xix. 53, 105 n).

V. C. Smith, 20 tons. I calculate that at least seven-tenths of the bulk of the rock lies underground.

(*c*) Composition of the rock. This has been variously given by different writers. It has been called granite, gneiss, greenstone, trap, flinty stone, silicious conglomerate, silicious sandstone, graywacke. Of these terms, only sandstone (not silicious) and graywacke are at all correct. Of graywacke, Kemp says it is "an old name of loose significance;"[1] and in this Professor C. W. Brown agrees, adding that as a single term it approximates most nearly a correct description, but is too vague to be of much value. I have asked Professor Brown to give me an accurate description, and he permits me to use the following as applying to a specimen piece broken from the rock:

A gray, medium to coarse grained feldspathic sandstone made up of abundant easily discernible particles of glassy quartz, with small, light colored grains of feldspar sometimes showing fresh cleavage surfaces. At other times the feldspar is decomposed (kaolinized) to such an extent that it can easily be dug out with a knife-point. Occasionally bits of pyrite and dark grains of other rocks and accessory minerals are found. The rock shows a small amount of shearing or foliation with development of sericite.

(*d*) The surface "incrustation;" weathering phenomena. Several writers have spoken of a "crust" of the surface. Thus Stiles: "Inscription pecked in a hard thin reddish or tawny crust $\frac{1}{4}$ inch thick;" Webb (describing Portsmouth rocks, of graywacke similar to Dighton Rock): "an incrustation, appearing like a coating of cement;" Squier: "This face has a thin incrustation of a reddish color and ferruginous appearance." As a matter of fact, clear photographs show that in a very few places of slight extent, thin sections of the surface have scaled off; and on a neighboring rock of similar composition I have easily detached such thin scales. But otherwise the surface cannot be accurately described as possessing a "crust," though it is discolored to a slight depth. Professor Brown has kindly furnished me with a description of this phenomenon also:

The face is probably a joint plane, which is usually more impregnated with iron. Under the influence of the sea-water the rock weathers with a rough reddish-brown rusty surface. The surface is roughened by the

[1] Handbook of Rocks, 5th ed., 1911, p. 214.

projection of the network of resistant quartz above the pittings caused by the decomposition of the weaker feldspar and other mineral constituents of the rock. The discoloration from weathering apparently penetrates, as shown by the whitening of the feldspars, but to $\frac{1}{8}$ or $\frac{1}{16}$ inch. The rusty color is due to the interaction of the salts in the sea-water and the rock minerals, which is a common occurrence on the shore line. It is a question whether scaling through weathering occurs equally in grooves and on planes; but I have noted the permanence of glacial scratches even after the exfoliation of a thin layer of the rock surface.

(*e*) Relation of the rock to the neighboring slab. A flat surfaced rock lies on the beach, behind and southward from Dighton Rock.[1] Stiles and Kendall have described it as possessing a very few inscribed markings, and Friedrichsthal thought that it once possessed an inscription as large as that on the more famous rock. This so-called slab is the sole foundation for the many rumors of there being another inscribed rock "near Dighton Rock," or "lower down on the beach," or even, as Joshua T. Smith reported, "across the river." In a previous paper I reported that I had discovered that this reputed slab is really a boulder, and that "it is a curious fact that it is of the same material as Dighton Rock, and its surface, in shape and dimensions, is closely similar to the inscribed face of the latter. It is not impossible that the two formed originally one boulder that later split apart." [2] Later observation of the relative position of the two and of their present distance apart tends to strengthen this hypothesis. Among various possibilities as to the agencies that may have caused the occurrence, a fairly plausible one is suggested by an incident of the great September gale of 1815, when a huge boulder on the bank of Assonet river is said to have rolled over. If we assume that long ago Dighton Rock and the slab were one, with the inscribed face of the former in contact with the exposed face of the latter, and that a similar occurrence happened to them; that the slab stopped in its present position, but the Rock split off and continued rolling $2\frac{1}{2}$ quarter-turns and there settled edge-down in the mud, their actual relative positions would be accounted for. It is even vaguely possible that the event is commemorated in the name

[1] Visible to the right of Dighton Rock in Plates XLII and XLIV.

[2] xix. 112 note.

Chippascutt which the Indians applied to the region about Dighton Rock. I previously suggested that the name might refer to a "Cleft of Rocks" near-by.[1] But it might equally apply to a "split-apart rock;" and if Indians were witnesses of such a striking event, there is no improbability in the supposition that they might have commemorated it in a name. Some of the regular inscribed figures on the upper part of the face might even have been designed as pictures of the catastrophe. These are purely speculative suggestions, but in forming our opinions concerning Dighton Rock they have to be recognized as possibilities.

(*f*) The inscription on the up-stream end. This end actually faces about east north east.[2] Being up-stream on a river flowing southward, it is usually referred to as the north end. Stiles saw a simple inscription there in 1767, which he drew in a manner resembling I HOWOO, with a few additional marks underneath. He heard that it had been made "30 years ago, some said 12." Edward E. Hale saw it in 1839, and remarked in his Diary that "H and W figure in it," and that it had been made "this or last year." The anonymous writer of the Taunton Whig, January 23, 1839, saw "sculptured characters on the south end," where I can detect nothing artificial. I think he meant to say north. He claims they had been "observed by none before," and describes them as including three triangles, resembling the Greek letter Delta, and "the rude outlines of the head and body of a man." Possibly also the "C. Furnius name written over by M. Agrippa," seen by Fernald at the "East end," may have been in this position.

There is some sort of an inscription there. It is very seldom visible at all, hence is rarely seen and has been mentioned only by these three or four persons. Since the statements of the first two of them had never been published until within the last two years, and that of the third was in an obscure paper, attention has never been called to these marks until my own reference to them in 1917. In some rare lights they stand out very plainly, but it is difficult to be sure exactly what they are. I have pictured them variously at different times.

[1] xviii. 248.

[2] The line of intersection of the plane of the face with the plane of the horizon, allowing for a magnetic deviation of 13° west, is directed N 58° — 60° E, or almost exactly ENE by compass.

It is possible to see in them all the characters of Dr. Stiles. Seen otherwise, the triangles of the Whig can be detected, and one of the O's, together with some additional lines, might perhaps have been interpreted as a head and body. The surface of the rock has scaled off or broken away just to the left and also just to the right of the line of apparent letters. The last three letters seem clearly to be WOO. The I H of Stiles are certainly more complex than that. His middle O is there, but with a vertical line across it. I have thought it possible that there might have been a GR on the part broken away at the left; that EE might with difficulty and perhaps some aid of imagination be read next; that the final vertical of Stiles's H, a following oblique line that is certainly there, and the vertical crossing the O, might together form an N; and that then, following WOO, a D might have been on the other part now scaled off. The middle O, and a considerable number of irregular lines and dots crossing and underneath this line of letters might have been added later, and thus serve to make present interpretation of these very faint marks more difficult and uncertain. If this highly conjectural suggestion represents the actual facts, then Isaac Greenwood inscribed his name there in 1730 — a date sufficiently close to Stiles's estimate.

(*g*) Inscriptions on the shoreward slope. No one except Fernald has paid any attention to these. There are unquestionably many initials carved there, all of them very faint and apparently old, so obscure that very few of them can be seen except in favorable conditions of lighting, and almost all of them susceptible of being interpreted in varying ways under different conditions of lighting or different mental attitudes toward them. They all seem to be ordinary English capitals, consequently made since 1637. I have not recognized the initials of any known or likely visitor to the rock. Fernald gives two drawings, on his pages 20 and 33, nearly alike but not quite in agreement.[1] Where he found an ancient compass depicted, there is merely a natural rather circular flaw of the rock. His supposed C drawn within an O, "the name of Christ in that of God," are again nothing but natural flaws in the rock, only very remotely resembling a C and a circle. Where he found "Washington" there is a very plain small W, but no other real letters. The W, however, is followed by just enough small cracks and irregularities to permit

[1] See drawing and description on p. 366, above.

a highly imaginative reading in agreement with Fernald, if one strongly desires to see it as such. Unbiased examination is conclusively against its real presence. In the position where Fernald places C. Furnius, I can discover nothing. All his other depictions, except of a drill-hole, are of initials. He gives nine sets of them. I have found thirteen, of whose correct reading I was uncertain except in one case. On comparison of my uncertain readings with those that he gives, I decided that they agreed: fully, but with the initials in another place than where he draws them, in one case; nearly, in three cases; possibly, in one case; uncertain, one case; not at all, three cases.

There are also recently made initials on the face which bears the main inscription. One of these is accompanied by the date '87. These facts seem to me to have an important bearing on the next topic to be discussed.

(*h*) The wear of the inscribed face and the age of the inscription. The assumption has commonly been made that the inscription is very ancient. Ignorance by local Indians of its origin and meaning has been regarded by some as one proof that it is "very antique and a work of a different nature from any of theirs." Another equally inconclusive evidence of it has been derived from the faintness and uncertainty of the characters and the supposedly rapid wearing away of the surface. At least three cases are on record where an observer believes that he can detect a sensible alteration within the period of his memory. At least four have compared present appearance with past descriptions and drawn the conclusion that the wear is exceedingly rapid. A very large number of writers have deduced from present faintness alone that there must have been great wearing away since the characters were first made. The usual conclusion that is drawn from either one of the three forms of this argument from faintness and wear is that the inscription is ancient. Only Horsford, to my knowledge, has argued that rapid erosion would prove recent origin; and only Schoolcraft, so far as I have noticed, has believed that exposure to the action of the tides has exercised a preservative rather than an erosive influence.

One thing is certain, — that former descriptions of the depth of the incisions cannot be used as evidence for any change. The first who describes them calls them "deeply engraved" in 1690; but

Cotton Mather had never seen the rock, so far as we know, and this statement of his is doubtless on a par with his other statement that the characters are on "a mighty Rock." Greenwood gives the first reliable description, in 1730. He definitely says that the "indentures are not very considerable," and his drawing and his other statements prove that he had as much difficulty in making out the real characters as has ever been experienced since then. Even on the lowest part of the face, which alone does show evident signs of much wear, Mather's draughtsman, and Greenwood, and their next followers, were even less successful in making out apparent characters than have been some later observers. Sewall in 1768 and Kendall in 1807 made definite statements to the effect that the greater part of the lines were so much effaced as to make their decipherment impossible, or wholly subject to the fancy. As to their actual depth, Stiles was first to give an estimate, in 1767: "not $\frac{1}{10}$ inch deep." Kendall said in one place "not more than $\frac{1}{2}$ inch deep, but sufficiently conspicuous to attract attention from the deck of a vessel sailing in the channel," and this statement, exceedingly dubious in its latter part, has led to some of the most mistaken deductions. But in another place he said more cautiously that the depth never exceeds $\frac{1}{3}$ inch, and he qualified this by the further statement quoted above. The most recent estimates that I have noted, probably as accurate as any that can be made, are by Webb in 1830: "sometimes one-third of an inch, though generally very superficial;" by Squier in 1848: "none deeper than $\frac{1}{2}$ inch;" and by Elisha Slade in 1875: "from $\frac{1}{8}$ to $\frac{3}{8}$ inches deep;" and Squier adds concerning the lines in general that they are exceedingly shallow and scarcely discernible. Certainly if there are or ever have been incisions as much as $\frac{1}{2}$ or even $\frac{3}{8}$ inch deep they are very few in number and in no provable way different to-day from former times. It is equally certain that at the time of their first discovery the greater part of the lines were as difficult of accurate determination as they are to-day. The more deeply cut ones can now be clearly and surely seen in appropriate light, and are drawn practically alike in all depictions. Drawings and descriptions, therefore, give no evidence of greater wear to-day, even on the lowest part, than 200 years ago; and they rather tend to prove, on the contrary, that the erosion is imperceptible, so far as any effect upon the inscription is concerned.

Our possession of the two photographs of 1868 and of 1907 makes a positive study of this problem possible. Both show the surface and its texture clearly enough for the purpose, and both were made without disfiguring the rock with chalk lines. So far as I can discover on careful comparison of the two, the only discoverable changes in the forty years consist in a very few additional scalings of very slight extent, especially about the larger cracks in the rock; and these do not seem to affect in any way the discernible characteristics of the inscription.[1]

Some of the modern initials on the face, and a few lines of the inscription, were cut deep and prove little. The great majority of the lines of the main inscription, those of the inscription on the up-stream end, and those of the initials on the shoreward slope, were certainly made very shallow, and were all as difficult to discern correctly when first described as they are now. I think that the correct conclusion to draw from these facts is this: that shallow marks, within a very few years, become very faint, uncertain, susceptible of being seen in many different ways; that thereafter they last indefinitely with no appreciable change in the ease of perceiving them; and that the wearing away of the face of the rock is exceedingly slow. It has very evidently been much greater on the lower third of the face than higher up; yet even there no appreciable alteration since the rock was first observed can be deduced either from the drawings, or from descriptions, or from comparison of the photographs.

These facts, especially the modern inscriptions on the up-stream end and the shoreward slope, prove conclusively that no great age earlier than 1680 need be assigned to the inscription. That is all that they do prove. Equally consistent with them would be a belief that the characters are of a considerable antiquity. Unless we can find other evidence than is presented by the appearance of the inscription itself and its observable changes we cannot know whether the inscriptions on the face, aside from recent initials, were made all at one time or at various times, nor whether any or all of them are very ancient on the one hand, or made at no long interval previous to 1680, on the other. Their appearance is consistent with the assignment of any date for which we may discover other evidence.

[1] My own photographs of 1919 support the same conclusion.

A Hitherto Unsuspected Possibility

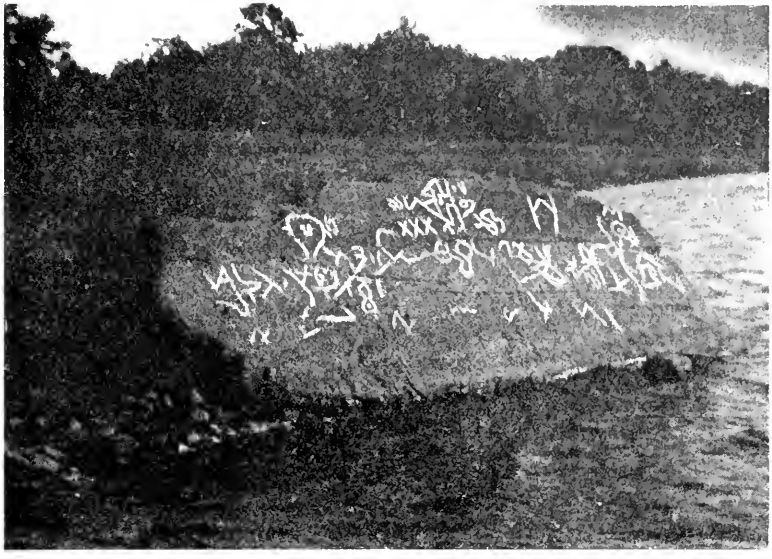
In some ways I am rather sorry that I have a new theory to propose. With the twenty or so distinct ones already in our possession, it would seem that we had a complete abundance. Yet there is another possibility, with just about half as much evidence in its favor as would be needed to make it a certainty, and we cannot ignore it. Aside from facts that are historically established, I shall appeal to no evidence that anyone may not verify for himself by aid of the materials herewith given. Each then can be left to draw his own conclusions as to the degree of probability involved.

It may well be imagined with what astonishment, on examining the Hathaway photograph for the hundredth time on December 2, 1918, I saw in it clearly and unmistakably the date 1511. No one had ever seen it before, on rock or photograph; yet once seen, its genuine presence on the rock cannot be doubted. Still, although its lines are all really there, it may not have been meant as such, but rather as part of an entirely different design. With one small exception, all of its lines occur in nearly every drawing and chalk-marking ever made. They can be seen just to the right of the lower middle part of the large human figure near the left end of the rock.[1] Out of 27 drawings and chalkings of this part of the inscription, 21 include both the initial and the final figures 1, and only one omits them both. The lower terminal curve of the 5 has been drawn by no one except Barber. But the rest of the 5 and the 1 that follows it are given in every one of the depictions, including Mather's, the earliest of all. All of them, however, join these lines to neighboring ones, and all except three represent the combination as a small human figure. This omission of the terminal curve and seeing the rest as part of a human figure is the reason why no one previously has discovered the date. In case of a puzzle picture, one who does not suspect it to be such is most unlikely to discover the hidden object, and even one who knows it to be there has difficulty in first perceiving it, because the artist has made another interpretation of its lines more obvious, and observing it in the obvious and easier way inhibits its interpretation in any other manner. Something of this sort is the case here.

[1] See Fig. 7, p. 416, below.

If the reader will examine the Hathaway photograph, he will see that the hitherto undrawn terminal curve of the 5 shows in it clearly. It is not of recent introduction. Earlier drawings do not show it, except imperfectly the one mentioned, because none of the artists have seen it. For the same reason, none of the photographs show it chalked. Nevertheless, it appears on every one of the photographs that is clear enough, even very faintly on the Eastman, earliest of all. In most of them it is rather obscured by the chalk lines. But in the Burgess photograph, the Blake cast, and the Hathaway photograph, its presence is unmistakable. Looking now again at the latter photograph, we see above the 51 a small circle with a central dot, and below it a larger circle with central dot and three or four lines radiating out from it below. It is these that have been taken by almost every observer as head, lower body and legs of the human figure, while the 5 has been taken as its breast and the 1 as its back. But suppose we regard these circles as sun-symbols or some other device independent of the 51 and probably carved there on some later occasion by another hand and for another purpose. Such an hypothesis is entirely legitimate, and leaves us free to accept the date as a real date. Yet I repeat that we are not compelled to so accept it.

If the date was actually designed as such, however, then there ought really to be something further among the sculptures to give it significance. The most promising place to seek for it is among the characters that have been so often believed to be alphabetic. We must concede at the outset that not one of these need be accepted as necessarily alphabetic, any more than the date need necessarily be regarded as designedly a date. The only thing we can say is that they may be letters, and that, indistinct as they are, some of them may not heretofore have been read correctly. Examining the line of characters just underneath the uppermost long crack a little above and rightward from the centre of the inscribed surface, we find that, paying no attention to Rafn's conjectural interpolations, the fullest interpretation that has ever been given to it is Kendall's ORINX. But in the Hathaway photograph there is a clear C, preceding the O and angular like it; and Kendall's IN *can* be seen as an M. Accepting this tentatively, I found a possible though not probable meaning for it, in consonance with Buckingham Smith's Roman Catholic interpretation of the line above. The date also



TUCKER PHOTOGRAPH, 1903

GRINNELL PHOTOGRAPH, ABOUT 1907

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

would accord well with the 1520 that he suggested as the approximate period when some missionary labored among the Indians here and wrote the pious invocation on Dighton Rock. However, his theory and my addition to it never appealed to me as worthy of serious consideration. Unless we should discover positive and credible information that some one actually did engrave a picture or an initial on the rock as expressing a particular meaning, we have no ground for accepting one rather than another of the hundred alternative meanings and origins that could equally well be devised for any of the pictures or letters taken as initials. Entire names, or words, or phrases, or dates, if we could discern them with certainty in a clear photograph, would be another matter.

The most obvious reading of this line as seen in the Hathaway photograph is CORIEIX, the C and O being angular and the E curved as in some Gothic forms of it. The I which follows it might even be part of it as a more completely Gothic E. I can find no meaning for such a collection of letters. But the I between the R and the E can just as easily be taken as a T, making the first part of the line read CORTE. It is in every way probable that different characters on the rock were made on many different occasions, and that some of the later ones were made over earlier ones. This very process is still continuing in the case of the modern initials which thoughtless people are carving there. There are known cases of petroglyphic inscriptions overlying one another in several layers.[1] Of the characters following the CORTE, therefore, the I may be the beginning of a letter the remainder of which is obscured by the X; the X itself may be an interpolation; and there may have been originally other following characters now obscured by later additions. Above the CO and the crack in the rock is a clear M followed by uncertain characters. We can read, then, without the slightest degree of forced interpretation, at least M . . . . . CORTE . . . . .[2] This, together with the date, may be a clue to the real first writer on

[1] See no. 298, pp. 37–42.

[2] On a photograph by C. W. Brown, taken May 15, 1915, and not here reproduced because in other respects not helpful to our study, the CORTEIX is even clearer and more decisive than on the Hathaway photograph; and following the M is an almost certain IC or IG. My own recent examination of the rock and photographs of it convince me that the G and a V following it are as certain as any of the other characters.

Dighton Rock. There seems to be only one historically known person who could by any possibility be held accountable for these marks, if we have interpreted them and the date correctly. One such there unquestionably is.

Henry Harrisse relates in full all that is known about the voyages of the two Portuguese brothers named Cortereal.[1] So far as I can discover from persons most likely to be informed on the subject, nothing is known now in addition to the facts that he had assembled by 1892; and his own later annotations in his personal copies of his books, now in the Library of Congress, convey no new information. On his authority, we will review briefly the pertinent facts.

"No nation in the fifteenth century exhibited so great a spirit of maritime enterprise as the Portuguese." After previous voyages, Gaspar Cortereal in 1501 explored the coasts of Newfoundland and Labrador. Eventually he sent two of his caravels back to Portugal, whilst he continued alone his exploration toward the Northwest, from which he never returned. It is probable that he was ice-bound or shipwrecked in Hudson Bay. Combining a hope to rescue his brother Gaspar with the desire of accomplishing also transatlantic discoveries, Miguel Cortereal set sail from Lisbon on May 10, 1502, with either two or three vessels. On reaching Newfoundland, his ships separated, in order to explore more thoroughly, agreeing to meet again on the 20th of August. The Hakluyt version of what followed, dating from 1563, relates: "The two other ships did so, and they, seing that Michael Cortereal was not come at the day appointed, nor yet afterwards in a certain time, returned backe into the realme of Portugall, and neuer heard any more newes of him, nor yet any other memorie. But that country is called the land of Cortereal vnto this day." It was believed that he was shipwrecked.

Even so, he may well have escaped with his life. The natives of the region were reported by those who returned from the expedition of the previous year as "quite gentle." We may suppose, then, that they may have been friendly and helpful.[2] His natural desire would

[1] Les Corte-Real, 1883; Gaspar Corte-Real, in Recueil de Voyages et de Documents pour servir a l'Histoire de la Géographie depuis le XIII^e^ jusqu'à la fin du XVI^e^ Siècle, 1883; Discovery of North America, 1892.

[2] The expedition of Gaspar Cortereal in 1501 had brought back to Portugal 57 natives, apparently designed for use as slaves. In a paper on The Portuguese

have been to return to Portugal. He knew of no other contemplated expeditions to Newfoundland; but he did know that somewhere to the south, how far away he probably did not realize, Spanish vessels were making constant visits to the new lands. He might very plausibly have attempted to reach the Spanish seas. His progress would necessarily have been slow, for there were not only geographical difficulties to overcome, but also hostile tribes of Indians. Harrisse gives evidence dating from 1544 that Nova Scotia and Cape Breton were then occupied by fierce tribes who were "bad people, powerful, and great archers." It is conceivable that by patience and tact Miguel Cortereal may have worked his way through these dangers after long delay. If we concede that we have reason for suspecting his presence in southern New England in 1511, it would not lack in plausibility on account of the nine years that had elasped since his shipwreck. There he would have again met with natives who in 1524 were described as "kind and gentle," and in 1602 as "exceeding courteous, gentle of disposition."[1] And there would furthermore be no lack of plausibility in the supposition that he might have engraved his name and the date and perhaps a message on a rock, in order to call attention of possible explorers to his presence. Or it may be that, being then about sixty years old, worn with hardship, perhaps ill and realizing his approaching end, he may have wished to leave a record of his fate.

There is just enough of evidence to make it necessary to entertain this hypothesis as a plausible possibility, but not enough to carry entire conviction. I can even fancy that I can faintly make out, in the lights and shades of the surface, behind and intermingled with the obscuring later additions, the dim form of all the remaining letters of his name;[2] — but I realize that it may be only fancy. Of

on the North-East Coast of America (in Proceedings and Transactions of the Royal Society of Canada, 1890, vol. viii. sect. ii. pp. 133 f), the Rev. George Patterson asks: "What more likely than that these navigators should have fallen victims to the vengeance of the friends or clansmen of the kidnapped, or perhaps been overpowered in an attempt to capture more." In the absence of any knowledge of the circumstances under which the kidnapping took place, whether by violence or by persuasion, and whether knowledge of it reached the particular natives with whom Miguel came in contact, such an assumption is no more probable than the one that I make.

[1] See Winship's Sailors' Narratives, pp. 21, 45.

[2] See Fig. 7 (on p. 416), and note that in two facsimile signatures reproduced by

course I do not attribute any of the picture-writings on the rock to Miguel Corte-real. They were put there, probably at later and various dates, by Indians. It may be that these Indian pictures, together with the wearing away of the lower surface, have effaced a longer message by this early explorer. No sign of it remains, and there is no likelihood that it can in any manner be restored. It is not impossible, however, that more definite evidence may be discoverable as to

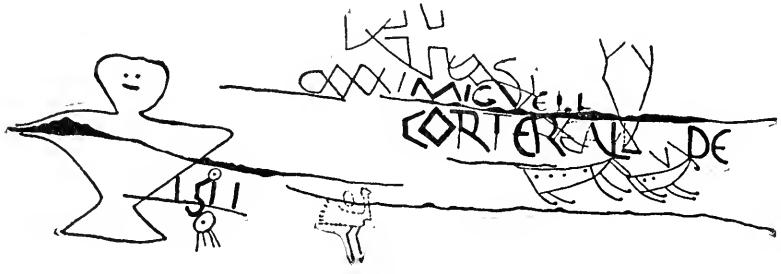


FIG. 7. DETAIL OF DIGHTON ROCK
Drawn by E. B. Delabarre, 1919

whether or not the name itself is there. For one thing, if there exist in Portugal inscriptions of about 1500 which make use of the peculiar angular C and O and of the unexpectedly curved E, such a fact would have strong bearing on this question.[1] Moreover, the fact

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Harrisse in the second paper cited above, the name is spelled Miguell CorteReall. In the figure, I have drawn in heavy lines all the component parts of name and date that are unambiguously observable in the Hathaway photograph. The light and dotted lines in the name indicate how it may be dubiously completed. Neighboring and overlying lines and figures are also drawn in light lines. Of the two "deers," the one at the right, though fairly clear in the photograph, is a little uncertain and has never heretofore been observed. It is much more distinct in my own photographs. The "bird" is inserted to show the position where Baylies and his companions probably saw it and where with difficulty it may still be imagined in the Burgess and Hathaway photographs. I do not believe, however, that there ever was really any bird portrayed in that position on the rock.

[1] I have found some evidence pointing in this direction. Apparently it was a time of transition between the use of Gothic and of Roman forms in lettering, and their intermingling, as in this inscription, was customary. Our associate Mr. R. Clipston Sturgis says in a recent letter: "Letters in use in Portugal in 1500 would be just the same as those in use in other parts of Europe at that date. It was at the end of the highest period of the Renaissance in Italy, and the various beautiful forms of Gothic lettering had been gradually abandoned for those based upon Roman types." Lewis F. Day says: "Writers of old

has already been emphasized that conditions of illumination make a very great difference in the ease of observing some lines and characters that are unquestionably present on the rock. As example, one needs only to recall the usual complete invisibility of the inscription on the upstream end, that nevertheless under rare circumstances of lighting can be seen with great clearness. When we shall have secured the series of photographs taken with the rock artificially illuminated from many different directions, already mentioned as indispensable for further study, it is possible that new discoveries may be made. However, study of the rock itself and of photographs taken of it under such natural conditions of illumination as were available, since the new hypothesis occurred to me, make me little sanguine of discovering more to support the hypothesis than the Hathaway photograph already reveals.

We leave this new theory, therefore, without any settled conviction concerning its truth. By treating the X as an interpolation, we can see clearly, but without certainty that they were meant as such letters: MIGV . . . CORTER . . L. For the rest, except the date, we must imaginatively connect detached blotches of light, or use lines that are more naturally interpreted as parts of other figures, or wholly assume the former presence of lines now invisible. It is tantalizing to find so much in definite support of a theory that is consistent and plausible even though not very probable,

never seem to have been bound hard and fast to one type of letter. Even in the same phrase various forms of the same letter occur" (Lettering in Ornament, 1902, p. 34). One of his illustrations shows the use of an angular and a rounded C in the same word; another is a modern imitation of mediæval lettering, in which the curved E is used exclusively in the midst of letters otherwise of Roman type. In Antiquitates Americanæ (pp. 379, 380), Rafn discusses early and mediæval use of angular C and O. According to the Traité du Numismatique du Moyen Age by A. Engel and R. Serrure (1905, iii. 1350 ff), the coins of Portugal between 1357 and 1481 employed both forms of E in the same words and phrases, the curved form occurring much more frequently than the other, and the majority of the other letters being of the now prevalent Roman forms. Conrad Haebler's Typographie Ibérique du Quinzième Siècle (1902) gives "Reproductions en facsimile de tous les caractères typographique employés en Espagne et en Portugal jusqu'à l'année 1500." His No. 42 shows a page of a book printed in 1485, having a border of capital letters in which occur both the angular and the rounded C, both the angular and the rounded E, and an O that is intermediate. Such forms of letters as I make out in the inscription would have been appropriate for Miguel Cortereal to have employed in 1511.

and not to find any sure trace of the remainder. At any rate, we can say with entire confidence that this theory, combined with the explanation of the rest of the figures as due to the Indians, has more of sound evidence in its favor than any of its earlier rivals. But this does not justify us in regarding it as more than an interesting possibility.

PSYCHOLOGICAL OBSERVATIONS

Throughout this investigation we have found it possessed of many different features appealing to our interest — a history full of incident and controversy, inviting to research; a succession of attempts at accurate portrayal; a searching inquiry into every possible theory that might reveal the truth as to origin and meaning; an incentive to imaginative flights that repel us if we are critical, but stimulate the sense of æsthetic enjoyment as works of art; extremes of picturesque humor and pedantic solemnity, of scientific sanity and baseless speculation, of sound truth-seeking scholarship and deliberate deception. Every phase and feature of it, however, has illustrated some principle of psychology, some variety of mental process, some type of human intellect and feeling. Our task could hardly be considered well completed without a systematic examination of some of the psychological lessons that this complicated history can reveal. There are "sermons in stones," and an especially good one in this stone. No one person can hear and retell its whole content; but some of its principal features can be outlined.

(A) As to the psychology of the producers of the petroglyph, we have as yet too little certain information. We may be sure, however, that those have read it wrongly who assume that, if Indian, later Indians would necessarily know of its origin and be able to interpret it correctly; or that Indians were too lazy and idle to have been capable of the work. Whether moved, however, by pure instinctive urge to be doing something, or by desire for amusement and for desultory picture-making, or by a feeling of self-glorification in recording personal symbols or exploits, or by a serious purpose to convey information, or by a combination of these, are still matters of controversy whose solution must be left to the progress of historical and psychological ethnology.

(B) Types of mental attitudes and types of men. A number of times during the course of this study attention has been called to the characteristics of a certain type of writer and deviser of theories in whose case "waking dreams" are taken for realities. Gebelin, Hill, Dammartin, Magnusen, Onffroy de Thoron, Fernald, — will be recalled as examples. Other and saner, though perhaps less picturesque writers, have spoken of the productions of such men by various uncomplimentary names: "air built fabrics" (Squier); "humbugs" (Bancroft); "learned trifling" (Blackwell); "enthusiastic rubbish" (Dall); "laborious trifling" (Diman); "antiquarian absurdities" (no. 172), and many longer and equally disparaging phrases. Instead of describing again their peculiarities in terms already used,[1] I shall try to contrast them briefly with writers of other types and to discover somewhat of the underlying causes of the differences.

At the other extreme from these Don Quixotes of science who have thus been singled out are the plain, matter-of-fact, unimaginative fellows who make everything dry and commonplace. When accompanied by careful and exhaustive accumulation of evidence, their attitude becomes a part of the true method of science. But through haste, ignorance, prejudice or natural narrow-mindedness, they are quite as apt to be one-idea men as the others, and accordingly no more likely to hit upon the truth. These are little attracted by mysteries. Consequently we have few of them writing upon our subject, and can mention as best examples only those who dismiss the matter briefly with the remark that the apparent inscription is the work of nature or accident only. We are thus safe in including, it would seem, at least Douglass, John Whipple, and the writer in the English Review.

Between the two extremes lie the more versatile minds. They possess imagination, but restrained and tempered by the more prosaic qualities. The combination may be an habitual one, or the two may alternate, either in different moods or as applied to different subjects. In either case, the result may be good or bad, according to the appropriateness of the distribution. Such men, as well as the preceding, may lack the painstaking industry and the breadth of mind that lead to truth, and so be as unreliable as their fellows. At their best,

[1] Our Publications, xix. 71, 125.

we find them holding fast to fact, so far as research has yet supplied it, but communicating it with grace of expression, with sympathetic understanding of opposing views, and with appreciation of its appeal to the æsthetic feelings as well as to the intellect. Strict in their acceptance of evidence and formulation of truth, they can then relax in order to enjoy its poetry and beauty, and even appreciate these qualities in the whole struggle for truth and thus in its stages of error as well as of attainment.

Professor James was fond of drawing the distinction between what he called the easy-going and the strenuous moods. The distinction is much like that between our two extreme types, if we take it as referring not to amount but to tenseness of activity. Our first type is easy-going; but it may be exceedingly industrious and in that sense strenuous, and the other very little so. Another pair of terms, soft and hard, among those used by James, comes nearer to expressing the essence of our distinction. I shall call them, however, by names that apply both to the type and to its underlying causes: first, the "lax" or "relaxed;" at opposite extreme, the "tense;" between, the "supple." For I believe that it is just these characters of muscular adjustment attending the processes of observing, remembering, reasoning, acting and feeling that determine the mental and personal differences to which attention has been called. At their greatest extremes, laxness becomes flabby and tenseness becomes rigid and cramped. When crystallized into abiding personal traits these two, whether as greater or more moderate extremes, become unchanging types of personality. But in those who are supple of mind and muscle they rarely become extreme, and are alternating attitudes of mind or merge into a permanent attitude of poise or balance. In every case, the relaxed attitude is favorable to imagination and feeling, and also, if not at the same time narrow, to sympathetic understanding of others. Tenseness, if too firm and unadaptable, like imagination and feeling unrestrained, leads to nothing admirable; but when it means perfect self-adjustment to conditions, delicately changing with their changing character, it is the foundation of accurate and exact observation and thought. The supple, balanced attitude is ready to meet either demand, and thus is best adapted to arrive at wide-visioned truth in all its forms. We have met with numerous examples of its possession by the partakers in our discussions, more

or less successful according to the range of information and degree of attention devoted to the subject. It hardly demands further description. About the extremer types much further may be said.

A few simple illustrations will assist in realizing the unescapable dependence of the mental types and attitudes on muscular tendencies. We know that mental relaxation demands bodily relaxation, and the two together favor the free play of fancy and disconnected ideas; while to observe accurately and to reason logically requires an alertness and appropriate adjustment of muscles as well as of mind. There are intoxicants and drugs that render exact observation impossible, foster illusions, stimulate wild trains of imagery and thought, diminish control in speech, expression and action; and they accomplish it largely through relaxing the muscular adjustments and controls. On the other hand, the words keen, alert, vigorous, eager, intent, virile, call attention to conditions of muscular tonus as well as of mind, that are bound to one another indissolubly. The following simple experiment is instructive. When we close the eyes, the muscles of accommodation and of convergence usually relax, but we can keep them adjusted as if we were still looking attentively at some definite object at some definite distance. Furthermore, with the eyes closed, we can still see: light penetrates through the eyelids; after effects of preceding stimulation still linger on the retina; inner stimuli of pressure and chemical change maintain the constant presence of what is called the ideo-retinal light — a fine, dancing, drifting mist that can be seen with closed eyes or by looking into dark spaces; and varying visual images may seem to occupy the field of visible light due to these different causes. We usually fail to observe these phenomena, through lack of interest and through their having no bearing on what we accept as real, practical facts. Yet we may observe them if we will, or, unobserved themselves, they may contribute much or little to the nature of our thoughts and imagery. The significant thing that I find to be true of them is this: with eyes closed and muscles relaxed, it is impossible to observe just what visual phenomena actually proceed from retinal activities, and centrally originating images are stimulated, merging with and often obscuring the actual sensations; while with muscles adjusted as for real seeing, the images vanish and the genuine retinal phenomena appear. As in seeing of real objects, so in this seeing with

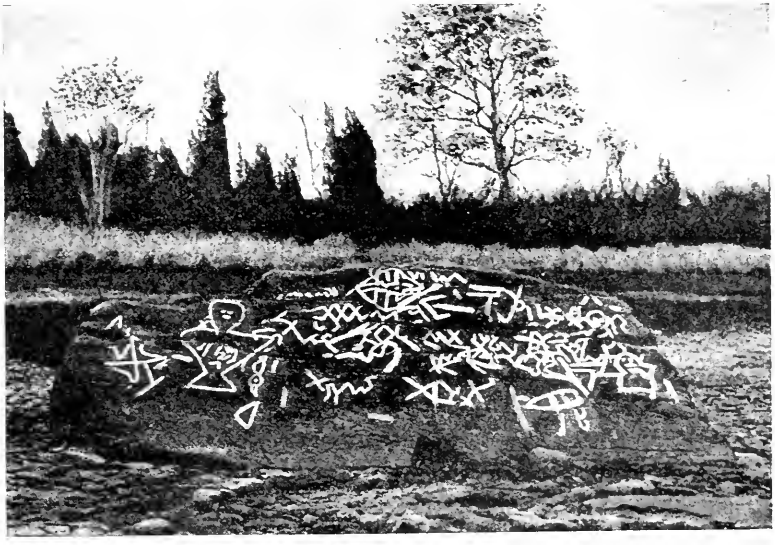
closed eyes, exactly adjusted convergence and accommodation of eyes and of other muscles that assist in close attention are essential to reliable observation, and loose adjustment tends to substitute the imagined for the real.

Yet our loose-muscled and loose-minded friends are no less confident of the reality of their visions than are those whose felicitous adjustments make their observations and reasonings more trustworthy, or those who make another type of error through ill-adjustment arising from excessive and unadaptable tenseness. Confidence and sureness of being right as readily attend narrow-visioned error as wide-visioned truth. The lax and the over-tense are very liable to be narrow-minded; and the supple may be so, on some or all subjects, through ignorance, or haste, or laziness, or forgetfulness, or lack of system, or emotional appeal, or habit, or other causes. In all three types, the single unopposed idea seems right, since belief arises as inevitably from absence of anything that contradicts as from the triumph of well-reasoned ideas. The confidence, therefore, with which anyone asserts that he has observed a fact, or remembers clearly, or knows a thing to be true, cannot be accepted as having in itself any value as evidence. It may attach to any kind of an idea, theory, or supposed fact. It will have different attendant characteristics, however, in the different types. In the loose adjustment to realities of those who pin their faith to figments, it is more apt to be a genial ignoring of other possibilities; while at the opposite extreme it is an active and obstinate hostility toward them.

These considerations are now, perhaps, sufficiently well developed to enable us to see their application in this particular study. Endeavoring to avoid undue complication, we may consider the facts of chief interest in the form of two principles.

(*a*) Typical laxity or tenseness, as permanent type or temporary attitude, affects the whole range of mental processes and action. For illustrations, we must here resort exclusively to the loose type, for there are too few of the opposite kind in our history and they treat the subject too briefly to make it possible to dissect them. But this is just the kind of a mystery to appeal to the imaginative and induce them to lay bare their whole nature. Accordingly we find the advocates of startling theories consistently careless and inaccurate

EDDY PHOTOGRAPH, 1908



WILBUR POST-CARD, 1913

ENGRAVED FOR THE COLONIAL SOCIETY OF MASSACHUSETTS

in observation, uncritical and inexact in dealing with their accepted sources, unsystematic and often self-contradictory and illogical in their theories, confused and ungrammatical in their methods of expression. Of the weird and wonderful objects that they see depicted in the drawings we need not remind ourselves in detail. Such careless spellings as Deighton, Digthon, Dydon, Taunston, Jaunston, and Asson-neck may be considered examples of loose observation. So also may be the seeing of the rock near the middle of the river by J. V. C. Smith, the erroneous seeing of a cast of Dighton Rock by Wilson where none was exhibited, and many more. Even in such cases defective observation cannot be wholly separated from faulty memory, and this is even more true where plain misinformation, careless reading, distortion of memory and lack of verification inextricably intermingled lead to (1) misstatements of historical facts, such as: Smith's Creek as the name of Assonet River (on Rafn's map); no similar Indian inscriptions; rock known to earliest settlers; tradition has immemorially attributed it to the Northmen; drawings were published as early as 1680; Washington was taken to the rock; Bancroft found the stone; casts were sent to Denmark; a meeting of protest against removal was held in Boston; — or (2) the misquotation of statements of others, as: Ira Hill's omission of essential parts of the Job Gardner drawing; Beamish's reference to Bristol County instead of our country; Vallancey's statement that Greenwood's drawing was sent to Gebelin; the mistaken statements that Magnusen found the word "Northmen" in the M (Beamish, Schoolcraft), or in the inverted Y (Gravier), or on the breast of the human figure (Onffroy); that the French Academy called it Punic (Holmes, Thomas); that Danforth made claims for the accuracy of his own drawing (Webb, Wilson). It is more nearly plain memory that is at fault in case of the illusion that the marks on the rock are growing perceptibly fainter; in Webb's belief that his committee made the shaded lines; in Rafn's assigning the date 1830 to the Rhode Island drawing. Imagination is seen vigorously at work in the strange and varied interpretations of the meanings of particular figures, and in the other airy fancies characteristic of the people we are discussing. Defective weighing of evidence, illogical deductions, loose and inconsistent systems of ideas combine as foundation for a great majority of the theories advanced, and in such particular cases as: Rafn's confusion

as to the dates of Thorfinn's winters in Vinland; Mathieu's confusion of the two Ins; various inconsistencies to which attention has been called in the expositions of Ira Hill, of Dammartin, of Fernald and others. The feelings are involved with the other special causes in almost all of the above instances. They account for the acceptance as well as the origination of theories that pleasantly stimulate the imagination and possess for any one a poetic appeal. They arouse a bias that leads to such unfounded statements as that opponents tacitly admit their errors (Vallancey, Domenech, Horsford), or are influenced by unworthy motives (McLean, Webb, Melville); that there was no interest in the rock in Massachusetts before a certain date (McLean); that small vessels can hardly pass in Taunton River (Bancroft); that Indians were ignorant of the existence of the rock (Yates, Webb, Bodfish); that therefore it must be ancient and foreign (Greenwood, etc.). Inaptness, inexactness, confusion or bias in action manifest themselves in deliberate misrepresentation, of which we have few indubitable cases; but otherwise, since we deal here only with men's written utterances, mainly in their manner of expression. Misspellings such as have been cited, or inexact, careless and biased copying of drawings, involve features of action. Failure to verify statements is an action-quality, and a common one. Most prominent evidence of the effect upon expression of this all-pervading malady of laxness is the fact that its most extreme exponents are almost sure to be confused in their arrangement of data and ungrammatical in their manner of speech. Ira Hill, Asahel Davis, and Fernald are shining examples. Any one, in moments of laxity or in dealing with special topics, may make errors of any of the kinds here noted, without implication that their makers belong habitually to the lax type. But the incurably lax-minded exhibits a lax adjustment of muscles in all of his processes that renders exactness, clarity and consistency impossible in any field of mental activity, and makes him liable to errors and inadequacies of all varieties.

(*b*) When narrowness of vision, habitual or occasional, combines with these muscularly founded qualities, it produces a number of characteristic manifestations. The idea that appeals leaves no room for rivals, and its possessor when confronted with other possibilities, unless confused or vacillating, must either ignore their existence or disparage their importance. Such people are necessarily unsympa-

thetic, seeing no merit or virtue in their opponents. In argument, if driven from one defence they resort to a second, and on demolishment of that they resort again to the first as though it had never been touched. They cannot be doubters, for that attitude demands sufficient breadth to entertain various possibilities at once. They therefore have complete confidence in their own reliability and the truth of their own beliefs. These facts are well illustrated throughout the discussions that we have been following. Besides those that readily suggest themselves, we can see a good example in the conviction expressed by many of those who have drawn or photographed the inscription that their productions are faithful depictions. In twelve cases there is definite mention of the care used or merit of the result. Of these, one person only expresses doubt as to his accuracy or care, except in the two cases of Kendall and Seager, one of whom deliberately tries to leave in obscurity what is obscure on the rock and emphasizes the impossibility of making any accurate drawing, and the other of whom exhibits a minimum only of the clearest lines. As against these three, there are nine who emphasize the great care employed to trace only real indentures, and five of these add that they have omitted doubtful cases where there seemed to be indentures. We may be sure that probably as large a proportion of the undescribed cases were attended by an equal confidence. Yet the great diversity of results shows that such confidence must have been often ill founded. Kendall has told us how the drawing or chalking of a definite line in many instances must close the mind to a score of alternative possibilities. Thus, even when there is no natural disposition to narrow-mindedness, it is almost inevitably produced in the process of chalking or drawing the rock, except in the rare instances where one is content to leave his product vague and unsatisfying.

Besides these general effects, narrow vision produces differing results in our different types. Of the more balanced kind, we need only say that it makes them superficial, hence careless and inexact. In the others, entertaining no doubts as to the correctness of their views, it is apt to induce a large self-importance, but differently manifested in the two. The loose type is more genial, the tense more blustering. The former have solved deep mysteries and made great discoveries: Mathieu, of the art of reading hieroglyphics;

Onffroy de Thoron, of the primitive language; Fernald, of the same, and of the primitive alphabet of lines; Lundy, of the Mongolian symbolism of writing; Dammartin, of the origin of all alphabetic characters in the constellations. Gebelin was an expert and highly gifted reader of Phœnician characters, Samuel Harris an almost supernatural linguist, Magnusen a master of runes. These men are not often combative, and for the most part ignore alternative views, or dismiss them with the easy grace with which Onffroy disposed of the "inventions" of Rafn and the "fantastic translations" of the Friday lecturers. We are more amused than offended by their pretentious claims. But those who are over-tense as well as over-narrow, unless kept servile by authority, are the easiest victims of an offensive megalomania which makes them blind ruthless Huns, arrogant, pompous, blustering, dealing out contempt, abuse and ridicule to their enemies. Our history has furnished us with a few mild illustrations of the type, which we see at work in Douglass's attitude toward Cotton Mather, in Vallancey as described by Ledwich, and in a few other instances where abuse takes the place of argument. The best example I have found is contained in a private letter of long ago which, as it was not designed for publication, I quote without mention of its author. As so often in like cases, he appears to mirror his own egotism in the abusive terms which he applies to those whose beliefs do not agree with his:

> There are many wise-acres in this country and Europe whose zeal far outstrips their wisdom and who endeavor to make up for want of knowledge by bold assertions and wholesale statements. With these would-be wise ones the [advocates of a certain theory] have constituted a fruitful topic for gibes and jeers; in their self-conceit and gross ignorance, they have deemed themselves amply qualified to sit in judgment, and with a boldness of which "none but itself can be its parallel," they have not hesitated to act as judges, jurors and witnesses in the case at issue. And who has by them been often arraigned as a set of ignoramuses, historic falsifiers, and visionary theorists? At one time these "Know-Everythings" labored most vigorously to break the Dighton Rock to pieces.

(C) The extent to which apperception enters into all intellectual processes is one of the clearest facts to which our studies contribute evidence. We neither perceive nor believe anything on the basis of

presented data alone. By themselves they are always too meagre and too detached to possess any significance at all. They must be given meaning, distinction, relation, completer filling and objective reality by aid of our own reactions and of our organized past experience before they can become for us objects or truths. It is this process that is called apperception. There is a class of modern realists who deny or minimize its existence; but their claims are irreconcilable with sound handling of the facts, and incapable of detailed organization and explanation of them. Whenever we perceive an object, as by looking at it, it is not the object itself, complete and unchanged, that in some mysterious manner enters into the mind; nor the mind, looking out from itself, that magically knows the genuine external reality as it actually exists there outside the mind; nor an incomprehensible relation between the two that itself is the knowing. To be acceptable, a scientific hypothesis must take into account every single one of the pertinent indubitable facts, fit each into its definite place in a harmonious system, account for all distinctions and variations and conditions. These forms of realism treat all cases by the one invariable formula, make but the one undifferentiated and unsupported claim, possess plausibility only as long as they confine themselves to generalities, and have no power to enter into the minute explanation of the million details and distinctions that must be examined and assigned each to its separate definite cause. They are all mere hocus-pocus and magic. A magic power or explanation is one that, without any causally determined differences in itself, is supposed to create or account for a variety of results. A scientific cause or explanation is one within which is a causally determined difference for each difference that is to be explained. There is but one account of the facts which, while it has not solved all problems, is yet inherently capable of accomplishing the task.

The things outside us do not enter our senses. Nor do they throw off sensations which faithfully represent them and succeed in penetrating the mind. Instead, the process is a complex one. The forces of light, heat, pressure, molecular activity, and the others, themselves determined by the activities of what we call the objects outside us and the internal activities of our own bodies, excite appropriate sense-organs to a discharge of their stored neural energies.

These set cortical cells in our brains into activity, and when this happens there arise as facts of consciousness, by a law which most psychologists accept as parallelism, the phenomena that we call sensations. These are wholly mental contents and cannot by any possibility resemble in the slightest particular the physical things and qualities and forces which have aroused them. But these sensations, though in our minds, we do not yet know. By wholly unconscious but accountable processes, we select certain ones among them all at any particular moment and neglect the rest; then add to these a mass of selected "kinæsthetic" sensations arising from our own muscular adjustments to the ones first named; then incorporate these into an organized mass of earlier sense-experiences, into which they will acceptably fit; then substitute some features involved in the latter for some of the sensations that are actually presented; then, instead of realizing that we have done any of these things and that the product is wholly in the mind, we believe it to have existence outside us; and then at last — numerous as the stages are, for us they appear practically instantaneous — we become aware of the complex "externalized" fabric, and believe it to be the observed external object. Such is the process of apperception. Without it we can observe nothing, not even the plain original sensations. It enters necessarily into what we call correct perception as well as into illusion, into that of the psychologist, the physical scientist, the plain man, as well as of the visionary. It is less easy to prove it for ordinary clear perception, especially with the materials furnished us in this study, than for the perception of faint and confused objects. In the case of the latter it can be made very evident.

A few years ago there were observed, at a laboratory in Nancy, faintly visible emanations of a new kind, which were called n-rays. A whole series of definite properties was worked out for them, a considerable number of reputable scientists confirmed them, a long series of scientific papers was written concerning them — and they were proved in the end to be purely subjective phenomena. Nothing could have established more clearly the fact that it is impossible for anyone to distinguish between faint objective and vivid subjective appearances. If rejected, it is not because anyone is acute enough to make this distinction, but because their behavior is reconcilable only with subjective and not with objective existences. If they

accord with all the rest of what he knows and believes about external facts, he must class them with the latter. Something similar is true of plainly visible external things. For a simple case, take a series of parallel lines and mentally group them together in pairs. The spaces between them are all alike, but they will no longer appear so. Within a group, the space takes on the appearance of a surface bounded by the lines; between groups are mere emptinesses. Or examine a puzzle-picture, or such ambiguous pictures as the one that may be seen either as a duck or as a rabbit, or the diagrams of ambiguous perspective shown in many text-books on psychology. Apperception, aided by appropriate muscular adjustments and their resulting kinæsthetic sensations, makes each alternative real in its turn. In extreme cases, like that of the opium-stimulated brain, everything may be thus ambiguous. Again, everyone knows how easy it is to see pictures that at least almost seem real things in clouds, in flames and embers, in wall-paper patterns, in the graining of wood and veining of marble, in frost-covered window-panes. A sheet of marbled paper is inserted in Sterne's Tristram Shandy as material for the exercise of this diversion. Irregular ink-blots are excellent material. In commenting on Dammartin, we demonstrated that any desired outline figure could be found in the constellations. Any complex collection where something is to be taken as real and some parts ignored as irrelevant serves this purpose. What is seen in these instances we know to be our own fanciful creation, but only because we know that the things seen cannot possibly exist in those places. Our belief about them will be very different if nothing in our experience contradicts their objective reality. Whenever we can, we tend to find something definite in the faint and orderly in the confused and to trust what we find, if it and other things and our system of beliefs will permit it. There is a pleasure in seeing uncertainties and irregularities resolve themselves into definite form, and the forms take on connected and acceptable meaning. If the critical attitude be not aroused or find no support, if no conflicting appearances or beliefs occur to mind, if rival possibilities arouse no liking, the apperceptively constructed object must be believed to be external. In that very way we construct all objects that we actually do accept as genuinely perceived, even the most sure and familiar ones.

Some of the alleged indentures of Dighton Rock are unquestionably there, artificially carved upon it. But aside from them it offers an ideal surface for these borderland apperceptions which may or may not represent objective facts. Examination either of the rock itself or of a clear photograph of it reveals both features under discussion — an abundance of lines that are faint and doubtful, and a vast confusion of other marks that are clearly observable and may or may not be artificial. There are numberless little pittings and protrusions, irregularities of texture, almost eroded remnants of indecipherable characters, minute cracks, light-reflections varying from dark to bright forming dots and lines and blotches, small differences of color. Such materials can be woven together apperceptively into a thousand varying forms. For the purpose of comparing the different drawings, none of which can be exact enough to show the precise position on the rock where each figure belongs, I tried at one time to identify and mark on the Burgess photograph every figure that had ever been drawn or chalked, and thus to produce a composite representation of them all. I found the task almost impossible, not because I could not discover the figures in any case, but because I could see many of them in too many different places. For instance, at the extreme left of the rock some of the drawings show a P, which at different times I placed in at least four plausible positions; and as to others I was equally uncertain. My notes state that "after prolonged and close searching, I got so that I could find any given figure almost anywhere."

Those who are cautious and instructed in the dangers will know enough not to trust any but the most indubitable of the figures they see. But even they will find it difficult to know where to draw the line between the sure and the doubtful. Kendall and Seager were the most cautious draughtsmen who ever viewed the rock; yet their drawings are very different. Very few are sufficiently instructed to be cautious. To look for what has been carved there insures the seeing of something among the thousand possibilities. The very seeing of a plausible figure makes it seem to be actually present on the rock. It may dissolve and give place to another, and if not satisfying it probably will. But the situation here differs from that when we are deliberately looking for what we know will be only dream-pictures. We can adopt that attitude toward the rock or its photo-

graph; but not if we are earnestly trying to discover everything possible of what was originally carved there. Then, any plausible and consistent appearance tends to be taken as objective and to inhibit the many alternative and mutually exclusive things that might have been seen in the same place. The lines and dots have been apperceived into an object. The fact that it is one's own discovery gives it strength. If, in addition, it for any reason appeals to the feelings, or best among various possibilities fits in with a preformed hypothesis, its full acceptance is almost inevitable.

It is easy to see why the many drawings and chalkings are so definite and likewise so different. Some of the causes are external. The lighting of the rock differs greatly with the position of the sun, and is of exceedingly great importance for the relative observability and distinctness of different figures. So also is the position of the observer. Carelessness and varying skill have some influence. But the most potent cause of all lies in the apperceptive factors. For the most part these make for variety, although within rather definite limitations, for no one yields to unrestrained imagination but rejects such apperceptions as have no plausible basis in actual objective data. Yet in some cases the objective lines may be most readily apperceived in a manner that is almost uniform and that nevertheless may be mistaken, as in case of the small human figure seen by nearly all observers where I now find the date 1511 with circles above and below it. The apperceptive possibilities wherever the lines are not sure and definite are so numerous that no one has yet exhausted them. We can constantly find new and unsuspected letters and figures with more or less of confidence in their actual presence on the rock. They may come by accident, as in case of the 1511, or by definitely looking for them under the inspiration of a new theory as to what may be there, as in case of my discovery of the Cortereal. Very few if any of the draughtsmen and chalkers, I think, have been biased by definite ideas beforehand of figures they wished to find, except in so far as they have been influenced by knowledge of previous depictions. Had they been so, they would probably have found what they sought. Moreover, they would almost inevitably have been in error, for there can be but one right theory, but there may be devised a host of wrong ones. Yet we must realize that bias in the one right direction may be as essential to the correct solution of

some difficult scientific problems, as bias in the numberless wrong directions is unfavorable. In dealing with obscure and ambiguous phenomena, the genuine truth about them is more likely to be perceived after the hypothesis that later proves to be the correct one has suggested exactly what to look for.

If anyone finds it difficult to believe that apperception can create objective fact, or to see how so many different representations can have been honestly made from the same model, it may be recommended that he study for himself the Burgess or the Hathaway photograph. Let him try to localize in the photograph the lines of any particular drawing, or make his own drawing showing every line that he thinks is probably artificial. He can inevitably bring himself to the discovery of any desired figure, though not necessarily with sufficient clearness to satisfy him. His own independent depiction will differ, if made detailed enough, for all except well marked lines, from any others. Moreover, the psychology of the chalking process can be readily and experimentally studied in the same manner. Before rendering any lines of the photograph more distinct by means of ink or pencil, there are numerous possibilities as to what may be seen in a given region. But once mark a line clearly, and many of these possibilities are obscured or vanish. A set is established toward seeing one or more definite figures, instead of many possible ones. The fixing of one line more nearly determines its neighbors; until finally, a single definite and solely visible figure stands out, where at first others might equally well have been seen. Had one started by marking some other line, the resulting figure would have turned out, in many instances, a very different one.

There is now one point more to develop before we close this study. We form our system of beliefs, or our interpretation of any particular phenomenon, by a process very like the apperception that has just been described. We sift and select among the materials actually given, ignoring what rightly or wrongly we regard as irrelevant. We fill out the inadequacies of the rest, rounding it into a full idea, by aid of our stored experience and completing hypotheses. According to the scientific strictness or the looseness and insufficiency of our apperceptive systems, the result is more or less able to bear the scrutiny of sound criticism. Of all our interpreters and theorizers thus far, only the advocates of Indian origin, or those who have

BROWN PHOTOGRAPH OF DIGHTON ROCK AS SEEN FROM THE SHORE, 1915

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cautiously refrained from forming any final opinion, have possessed a system of interpretative beliefs into which the data given by the drawings could fit in such a manner as to yield truth. It may be — or may not be — that our new hypothesis concerning Miguel Corte-real can eventually be added to the other that has scientific warrant. With respect to it, we are keeping ourselves within strict scientific limits by claiming for it no more than a present plausibility and such ultimate fate as future research may determine. The extremest methods of indefensible yet very natural interpretation are those that accept particular pictures as symbolizing entire incidents or characters in a story, with no other warrant than consistency with their own beliefs, or that regard single supposed letters as initials of complete words. There is very little difference in principle between these two procedures. They are essentially identical with one of the cabalistic methods called notarikon, wherein every letter of a word is taken as the initial or abbreviation of another word, so that from the letters of a single word a complete sentence may be formed. Buckingham Smith used a mild form of this process. It is perhaps not unlikely that Lundy's Chinese radicals were used in a similar manner. When the letters to be thus used are not taken in succession but selected at random from a large collection in any desired order, there are no limits to what they may be made to mean. Fernald permitted us a few insights into his manner of finding the meanings he wanted. It was not wholly crazy and baseless, for there was something of system in it. But the system, wherever we found it possible to follow its workings, was this super-cabalistic notarikon; and it is highly probable that it is the same whereby he obtained his six all different yet all true translations of Dighton Rock. It is in a similar manner that the discoverers of the various ciphers which prove that Bacon was the author of the works of Shakespeare and of other writers have reached their results. In a system of materials sufficiently complex, by the use of a cipher sufficiently elastic, any type of message may be discovered. Certainly the works of Shakespeare are sufficiently complex; and I have been informed by one who has a profound acquaintance with all the ciphers, including some very recent ones, that these are all sufficiently elastic to account for the results. Exactly the same can be said of Dighton Rock. The interpreters have worked with the drawings, not with the rock itself.

Yet even these have offered a sufficient variety of figures and complexity of lines to permit the finding among them of pictures and apparent letters to furnish seeming evidence, by means of the methods alluded to, for practically any theory that any one may have the ingenuity to devise. This does not imply that all theories must necessarily be equally worthless, but rather that we must use scientific methods, and not methods analogous to notarikon or Baconian ciphers, in reaching them.

SUMMARY AND CONCLUSION

It will be helpful toward a grasp of this complex study in its entirety to make a very few summarizing statements. Of independent attempts to represent faithfully the appearance of the inscriptions, in whole or in part, aside from my own, we have found forty-one. The earliest was in 1680. Twenty-two of them are drawings of the face, but six of these are now undiscoverable. One is a drawing of inscriptions on the shoreward slope. Two are ink-impressions, one a plaster cast. The remaining fifteen are photographs, of which the earliest, an alleged daguerreotype of 1840, cannot now be found. For all the photographs except two the supposed artificial lines were brightened and thus unreliably interpreted by means of chalking or some similar process.

Of theories advanced to account for the origin of the inscriptions, in whole or in part, we might enumerate more or fewer according to whether we include vague allusions and statements of mere possibility as well as completely formed and defended theories, according to the degree to which we make distinctions among those that differ only slightly, and according to whether we admit parodies as well as seriously entertained views. Our list below includes all of these varieties, and gives a separate number to each one that, though it refer to the same people as another, may be considered a different and independent theory. In a parallel column, with separate numbers, are the names of those who have presented a translation, complete or partial, in harmony with the parallel theory; and even an assignment of meaning to one or two figures or characters is classed for this purpose as a translation. The order is roughly that of the antiquity assigned to the inscription:

THEORIES	TRANSLATIONS
1. Not satisfactorily explained.	
2. The work of Nature only.	
3. Egyptian priests, 2700 B.C. (a criticism, not a serious theory).	1. The author.
4. In, Prince of Atlantis, 2102 B.C.	2. Mathieu.
5. Phœnicians or Carthaginians.	3. Yates and Moulton.
6. A definite Phœnician expedition.	4. Gebelin.
7. Tyrians and Jews, about 1000 B.C.	5. Ira Hill.
8. Another Phœnician adventurer, about 330 B.C.	6. Onffroy de Thoron.
9. A Hebrew people; the Lost Tribes.	7. Samuel Harris.
10. Persians.	
11. Trojans.	
12. Ægypto-Drosticks (a hoax).	
13. Egyptians.	8. Dammartin.
14. Libyans.	
15. Romans; also Christ and others.	9. Fernald.
16. Scythians or Tartars.	
17. Japanese.	
18. Chinese.	10. Lundy.
19. The Norse Colony of Thorfinn, about 1008 A.D.	11. Magnusen. 12. Rafn. 13. Gravier.
20. The Norse Bjarna (a parody).	14. Lowell.
21. Prince Madoc, about 1170 A.D.	
22. The Devil (humorously suggested as what ought to have been Cotton Mather's theory).	
23. An early native race, predecessor of the Indians.	
24. The Indians, by accident in sharpening arrows.	
25. The Indians, as an actual record or records.	15. Kendall's Mohawk Chief. 16. Chingwauk. 17. John Davis.
26. Miguel Cortereal, 1511.	18. The author.
27. A Roman Catholic missionary, about 1520.	19. Buckingham Smith.
28. Verrazano's expedition.	
29. Other early English sailors.	20. Perhaps Danforth.
30. Pirates.	
31. American colonists or boys.	
32. Modern visitors with sticks and canes.	
33. Initials undoubtedly carved by visitors not Indian, since 1620, some recent.	

Excluding four theories that were not seriously advanced, and nine others that have been barely suggested as possibilities without any defence of them, there remain twenty theories that have been definitely held and defended.

In connection with this amazing variety of theories as to origin and of beliefs as to meaning of the inscriptions in general, it is exceedingly interesting to bring together the different meanings that have been assigned to particular figures. The entire assembly of lines to the left of the large human figure has been interpreted as a Phœnician

date, an Egyptian date, zodiacal constellations, Thorfinn's ship and its surroundings, the camp at Straumfiord, the village of the Assonets. One character within it, sometimes drawn like the letter P, has been a Phœnician letter, an Egyptian monogram, a rune, a constellation, a noose-trap. The human figure itself has played the role of Neptune, Gudrida, Thorfinn, a person killed by an animal, a hunter, an idol, the Chief Mong, the constellation Virgo, the first American king and tyrant. The small figure at its feet possesses versatility enough to pose as a priest, as Chief Mong's sister, Thorfinn's baby son Snorre, Horus as son of the virgin goddess, a buried person with tears upon and near him, a part of the constellation Leo, a symbol of the second month of the tenth year of the reign of Solomon, and a portion of the date 1511 with circles above and below it. The clear-cut triangular figures in the uppermost central region are a Carthaginian camp, a seer's lodge, a collection of constellations about the northern Pole, a deer-trap, a shield. The apparently alphabetic characters near the centre are the name Thorfins, the name Cortereal, the constellation Aries, the constellation Gemini, the Icelandic word OR, the Phœnician words shâlal le-nâgar oneg, or a collection of indecipherable non-alphabetic lines. The famous animal below this has figured as a beaver, an unnamed dangerous animal, a deer, a composite animal with insect's wing, a bull, a winged and horned Pegasus, an unknown Asiatic animal, a leopard, a lynx, a constellation, a collection of leaves and vines symbolizing a fertile land, a map of the coasts of Europe, — and it might perhaps just as well represent a coon, a skunk, or a chipmunk. The lines next rightward of the three last mentioned figures include a deer-trap, a human trunk, a horse, a constellation or two, Thorfinn's shield, Thorfinn himself, a canopy over a throne, a wooden idol, a map of the Mediterranean. We might thus continue at great length; but enough has surely been given to discourage anyone acquainted with these facts from making further attempts to assign unsupported meanings to any portions of the inscription.

It has been our task to assemble every discoverable fact concerning this Writing Rock "filled with strange characters," so remarkable for the long continued interest which it has aroused and for its many-sided appeal to investigation and controversy. Myth, legend and history, archæology and ethnology, religion and æsthetics, astron-

omy and geology, the practical arts of faithful delineation, fundamental scientific method and psychology, all have been drawn into the discussion. In so manifold and complete a way has this rock, by human aid, expressed its nature, that its story has been not merely a record of events and facts, but almost the dramatic unfolding of a spiritual personality, like that of the struggle and development of a progressing human life. A dead rock, if exhaustively studied, is not a dead rock merely, but the incarnation of a living, struggling, growing, self-perfecting Idea; and of such is the Kingdom of Truth.

List of Plates accompanying this Paper

XXXII Photograph by Charles A. Hathaway, Jr., 1907, frontispiece.

XXXIII View or Sketch by John R. Bartlett, 1834, from a photograph of the original in the Royal Library, Copenhagen, between pages 298–299.

XXXIII Rafn's Reproduction of Bartlett's View or Sketch, 1837, from Antiquitates Americanæ, 1837, Tab. X, between pages 298–299.

XXXIV Rhode Island Historical Society's Drawing, 1834, from a photograph of the original in the Royal Library, Copenhagen, between pages 308–309.

XXXIV Rafn's so-called "Rhode Island Historical Society's 1830" Drawing, 1837, from Antiquitates Americanæ, 1837, Tab. XII, Plate IX, between pages 308–309.

XXXV Drawing of alleged Roman Letters (Fig. E), 1847; and Combination of the Drawings of 1789 and 1837, by Henry R. Schoolcraft, 1851, in Schoolcraft's History of the Indian Tribes, 1851, I, Plate 36, facing page 316.

XXXVI Daguerreotype by Captain Seth Eastman, 1853, from Schoolcraft's History of the Indian Tribes, 1854, IV, Plate 14, facing page 324.

XXXVII Lithograph by George A. Shove, 1864, facing page 332.

XXXVIII Drawing by Edward Seager, 1864, from the original in the possession of the American Antiquarian Society, facing page 342.

XXXIX Davis-Gardner Stereoscopic View, 1873, facing page 352.

XL Harrison-Gardner Photograph, 1875, facing page 362.

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XLII Photograph by Frank S. Davis, January 27, 1894, facing page 382.

XLIII Photograph by Frank S. Davis, 1894, facing page 392.

XLIII Post-Card issued by Charles W. Chace, about 1900, facing page 392.

XLIV Old Colony Historical Society Photograph, 1902, facing page 402.
XLV Photograph by Charles R. Tucker, 1903, facing page 412.
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XLVI William P. Eddy's Photograph, 1908, facing page 422.
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XLVII Dighton Rock as seen from the Shore, from a photograph by Charles W. Brown, May 15, 1915, facing page 432.

Fig. 5 Drawing of Shoreward Side of Dighton Rock by Charles A. Fernald, 1903, from Fernald's Universal International Genealogy, 1910, Plate 70, page 33, on page 366.

Fig. 6 Drawing by John W. Barber, 1839, from Barber's Historical Collections of Massachusetts, page 117, on page 379.

Fig. 7 Detail of Dighton Rock, drawn by E. B. Delabarre, March, 1919, on page 416.

Bibliography of Dighton Rock

This bibliography aims to record all cases of mention as well as of discussion of Dighton Rock that have come to the writer's attention. It includes not only printed sources, but letters, manuscripts, drawings and photographs, and occasionally incidents of importance. A very few cases are included where the rock itself is not directly mentioned, but where judgment concerning it is implied in such statements as that Rafn's conclusions are to be fully trusted, or that there are no discoverable vestiges of the early Norse visits.

The items in the alphabetical list (A) are numbered simply for convenience of reference in the footnotes to the present paper and in the chronological list (B) which follows. Page references are usually not to the entire discussion named in the title, but only to the portion dealing with the rock. Whenever representations of the appearance of the inscription accompany a discussion, the fact is noted by insertion of the abbreviation "Illus.," followed by a number which is that of some drawing or photograph so numbered in the list of reproductions given on pages 374–397 of this volume. A brief comment is attached to each item, which rarely attempts to indicate the value or the entire contents of the source, but confines itself usually to stating the opinion expressed as to the origin of the inscription. Titles are given with brevity, and as a rule the date of first publication only is given.

Inclusion in the list is naturally no indication as to the value of

a paper. A large proportion of the papers never possessed any merit as serious or reliable statements of fact or discussions of the problem, yet even these may have psychological or historical significance. Many trivial instances of casual mention of the rock are included, for they serve at least as indications of the degree of interest aroused by the inscription and of importance attached to it, and of the continuity of this interest through a long period of years. It is inevitable that many references to the rock must have been overlooked, and the compiler of the bibliography earnestly hopes that readers knowing of possible additions to it will kindly call them to his attention.

A

Alphabetical List

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3 Abbott, K. M. Old Paths and Legends of N. Eng., 1904, p. 388. Illus., 29c, p. 349. — Mention.

4 Adams, Geo., publisher. Bristol County Almanac for 1852, pp. 31 f. — Mention.

5 Adet, P. A. Probable visit to Rock, 1796. *See* no. 462.

6 Amer. Architect and Building News, Feb. 8, 1890, xxvii. 93. (Reprint from New York Times.) — May be Norse. Ownership and some theories; many misstatements.

7 Amer. Monthly Mag. and Critical Rev., 1817, i. 257. — Review of Mathieu's Le Printemps, probably by S. L. Mitchill.

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9 Americana, The, [1912], vii. article Dighton Rock. — Indian.

10 Anderson, R. B. America not discovered by Columbus, 1874. 4th ed., 1891; editions in Danish and German. 2nd ed., 1877, pp. 21 ff, 29 ff, 82 ff. — Norse. Accepts Rafn's conclusions. Not a reliable source concerning the Rock: "too credulous" (Slafter, 1877); "shows tendency of his race to a facility rather than felicity in accepting evidence" (Winsor); "such a mass of unbelievable assumptions and of unsupported conclusions are rarely found together in so few pages" (Ruge).

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13 ANDREWS, C. M., and DAVENPORT, F. G. Guide to the Manuscript Material for the History of the U. S. to 1783 in the British Museum, 1908, p. 73. — Reference to Greenwood letter.

14 ANDREWS, E. B. History of the U. S., 1894, i. 2. Illus., p. 39, after no. 24. — Not Norse.

15 ANTIQUARIAN. Letters of March 27, May 16, June 21, 1847. First appeared in newspapers of Providence and Newport; republished in Brooks's Controversy touching the Old Stone Mill, 1851, pp. 11–22, 38–44. — A hoax, claiming that the Rock was inscribed by Ægypto-Drosticks.

16 ANTIQUITATES AMERICANÆ, 1837. *See* no. 364.

17–20 ARNZEN, N. Letters and announcement regarding his gift of Rock to the Royal Society of Northern Antiquaries of Copenhagen. Meetings of [17] Aug., 1861, [18] Sept., 1862. In Proc. Mass. Hist. Soc., 1862, v. 226 f; 1863, vi. 252 f. [19] Ms. letter to J. W. D. Hall, Aug. 17, 1888, on transfer of Rock to the Scandinavian Memorial Club. Owned by Old Colony Hist. Soc. [20] Rep. of Committee on Dighton Rock, Oct. 15, 1889. In Colls. Old Colony Hist. Soc., 1895, no. 5, pp. 94–97. — Concerning ownership.

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26–27 B., L., Jr. [Bliss, Leonard, Jr.] Review of Antiquitates Americanæ. In Western Messenger, 1838, v. 230. — Norse; follows Rafn. [27] Inscription Rocks, found in Mass. and R. I. In Western Messenger, 1838, vi. 81–94. — Norse; follows Rafn.

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30 BALDWIN, J. D. Ancient America, 1872, pp. 279–285. — No direct mention of Rock; but quotes a legend from Danforth, and believes Norse reached Mount Hope Bay.

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37 BARNUM, L. H. [Discovery of America by the Northmen.] In Cornell Rev., 1874, i. 347, 349. — Value of Rock to Norse theory is problematic.

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42–44 BAXTER, J. P. Reference to Rock. In N. Eng. Hist. Gen. Register, 1887, xli. 414. — Mention of unpublished Greenwood letter in British Museum. [43] Early Voyages to America. In Colls. Old Colony Hist. Soc., 1889, no. 4, pp. 4–49. Illus., after no. 29c, p. 15. — Norse. [44] Present status of pre-Columbian discovery of America by the Northmen. In Ann. Rep. Amer. Hist. Association for 1893, pp. 101–110. — Indian; not Norse.

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46–47 BAYLIES, W. Collaborator with Smith, West, Gooding, in production of drawing of 1789. [47] Ms. letter dated Dighton 27 July, 1789, to James Winthrop, with a copy of the Dighton inscription. In ms. Papers, vol. i. 1780–90, of Amer. Acad. of Arts and Sciences.

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49 BEAMISH, N. L. Discovery of America by the Northmen, 1841. Republished in Prince Society's Voyages of the Northmen to America, 1877; and in the Norraena Society's Norse Discovery of America, 1907. Ed. 1841, p. 117. Illus., Plate III, after no. 18b. Ed. 1907, pp. 239 f, 242. — Norse; "no reasonable doubt" of it; Rafn proves it "by unanswerable arguments." A careless, inaccurate account of the Rafn version.

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51–54 BELKNAP, J. Corr. with E. Hazard. In Belknap Papers, 1877, [51] i. 353, June 6, 1784; [52] ii. 76, Nov. 16, 1788; [53] ii. 81, Dec. 13, 1788; [54] ii. 160, Aug. 20, 1789. — Doubtful.

55 BENTLEY, W. Diary, 1911, iii. 322 (Oct. 13, 1807). — Mention; references to Kendall, S. Harris, the two Baylies.

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57 BICKNELL, T. W. History of Barrington, 1898, p. 22. — Strong circumstantial evidence for the Norse theory.

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61–62 Blake, L. I. Maker of plaster cast of the Rock, 1876. [62] Description of the circumstances in letter to E. B. Delabarre, Jan. 13, 1916.

Bliss, Leonard, Jr. *See* nos. 26–27.

63–64 Bodfish, J. P. Discovery of America by the Northmen in the Tenth Century. In Proc. Second Public Meeting held by U. S. Catholic Hist. Soc., Oct. 29, 1885 (1886), pp. 38–40. — Norse; uncritical acceptance of Rafn's views. Several errors of statement. [64] Discovery of New England by the Northmen in the Tenth Century. Paper read before the Bostonian Soc., Feb. 8, 1887; reported in Boston papers of the following day. Probably identical with 63.

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Bower, S. J. *See* no. 156.

71 Bradford, A. W. American Antiquities, and Researches into the Origin and History of the Red Race, N. Y., 1841, pp. 184, 186. — No mention of Rock; but contributes to knowledge of Indian pictographs.

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77–80 [Bristol County, Mass., Northern District, Land Records. [77] Book 253, p. 92, July 25, 1857. Deed of the Rock from Thomas F. Dean to Nils Arnzen. [78] Book 253, p. 93. Jan. 23, 1860. Deed of the Rock from Nils Arnzen to Royal Society of Northern Antiquaries. [79] Book 259, p. 49. May 27, 1861. Acknowledgment of donation of Rock to Royal Society of Northern Antiquaries, by King Frederick VII of Denmark, President of the Society. [80] Book 470, p. 211. Jan. 30, 1889. Deed of the Rock from Royal Society of Northern Antiquaries to Old Colony Historical Society.

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90–91 Bushnell, D. I. An Early Account of Dighton Rock. In Amer. Anthropologist, 1908, x. 251–254. — Transcript of letters by Greenwood in British Museum. Accompanied by first photographic reproduction of drawings no. 1c and 5b. [91] Letter of Oct. 21, 1915, to E. B. Delabarre. — Indian.

92 Cabot, J. E. Discovery of America by the Norsemen. In Mass. Quart. Rev., 1849, ii. 209. — No sufficient evidence for Norse theory; probably Indian.

93 Catlin, G. Letters and Notes on the Manners, Customs, and Condition of the North American Indians, 1841, ii. 246. — Indian; their picture-writings are "generally totems of Indians who have visited those places."

94–95 Chace, C. W. Issued a post-card, by an unknown photographer, about 1900. [95] Historic Rocks. In Taunton Gazette, May 3, 1905, p. 9/1–7. — Non-committal.

96 Chambers, W., and R. Chambers' Papers for the People, 1850, no. 42, vi. 28. — Indian view more reasonable.

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100 Chingwauk. Indian interpreter of inscription, 1839. *See* no. 401.

101–102 Clarke, R. H. America discovered and Christianized in the tenth and eleventh centuries. In Amer. Catholic Quart. Rev., 1888, xiii. 228 f. — Norse theory plausible. [102] First Christian Northmen in America. In Amer. Catholic Quart. Rev., 1889, xiv. 608. — Believed to be Norse.

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104 Colburn's New Monthly Mag. and Humorist, 1850, xc. 128–132. American Antiquities. — No mention of Rock; but inscribed rocks are Indian.

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108 Cronau, R. Amerika, 1892, i. 137. — Unquestionably Indian.

109 Dall, W. H. Pre-Historic America. By the Marquis de Nadaillac. Translated by N. D'Anvers. Ed. by W. H. Dall. 1884. Chap. x. Origin of

Man in America. (For this chapter the American editor is chiefly responsible.) — Omits a discussion of Rock, favorable to the Norse view, that appeared in the original; and says: "Theories ascribing the origin of the Americans to full-fledged races from elsewhere are enthusiastic rubbish" (p. 530).

DAMMARTIN, MOREAU DE. *See* Moreau de Dammartin.

110 DANFORTH, JOHN. Author of first known drawing of Rock, October, 1680; and probable author of the "Danforth slip" in Greenwood letter B.

111 DANSK KUNSTBLAD, March 17, 1837. Illus., after 15c. — Characters have runic appearance, and are evidence of connection of America with the old world.

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113–115 DAVIS, F. S. Author of three photographs: [113] Sept. 11, 1893; [114] Jan. 27, 1894; and [115] one undated, early in 1894.

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117 DAVIS, N. S. Collaborator in production of photograph, no. 28, 1873.

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119 DEANE, C. Remarks on Rock. In Proc. Amer. Antiq. Soc., Oct. 21, 1867, p. 7. — Mention.

DEANE, W. E. C. *See* pp. 388, 390, above.

120–123 DE COSTA, B. F. Pre-Columbian Discovery of America by the Northmen, 1868. Later editions, 1890, 1901. 2nd ed., p. 65. — Central portion may be Norse; the rest may be Indian. [121] Northmen in America. Paper read Dec. 17, 1868. In Journal of the Amer. Geogr. and Statistical Soc., 1860–1870, ii. 51. — Hardly considered as a relic of the Northmen. [122] Note to no. 65, Hist. Mag., 1869, v. 178. — Cannot be relied on to prove anything. [123] Columbus and the Geographers of the North, 1872, pp. 14 f. — Not Norse.

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128 DE ROO, P. Hist. of America before Columbus according to documents and approved authors, 1900, i. 195, ii. 307–314. — Has served a dozen theories; may never prove any; "is and will remain forever a perplexing enigma."

129–130 DEXTER, G. Remarks on the Norse discovery of America, April, 1880. In Proc. Mass. Hist. Soc., 1881, xviii. 18 f. — Not Norse. [130] In Memorial Hist. of Boston, 1880, i. 26. — Not Norse.

131 DIGHTON BI-CENTENNIAL CELEBRATION, July 17, 1912, p. 85. Illustrations: Seal of Dighton, with cut of Rock after no. 40, on cover and title-page; no. 35, on p. 86. — Origin unsettled; possibly Norse.

132–134 DIMAN, J. L. Critical Notice of De Costa's Pre-Columbian Discovery. In North Amer. Rev., 1869, cix. 266 f. — Mention. [133] Settlement

of Mount Hope. Address . . . delivered Sept. 24, 1880. In Orations and Essays, 1882, pp. 145 f. — Northmen left no trace behind them. [134] Editorial notice of W. J. Miller's Notes concerning the Wampanoag Tribe of Indians. In Providence Daily Journal, Nov. 19, 1880, p. 2/3. — Mount Hope inscription more like Norse writing than that of Dighton Rock. Latter considered by the most competent judges to be Indian.

135 Domenech, E. Seven Years Residence in the great Deserts of North-America, 1860, i. 52, 61. — Norse; confirms Danish archæologists. At first confounded with Indian pictographs, "but on more serious examination the difference was perceived, and the archæologists acknowledged their mistake."

136 Douglass, W. Summary. Volume i first issued in numbers, beginning in 1747; as a complete volume, 1749. Later editions, 1755, 1760. Ed. of 1760, i. 170. — Natural honeycombing of the rock, not artificial characters.

137–138 Drake, F. S. Indian Tribes of the United States, 1884, i. 88 f. Illus., no. 24, opp. p. 88. — Condensed from Schoolcraft. [138] Indian History for Young Folks, 1885, pp. 27 f. Illus., after no. 29c, p. 28. — Indian.

139–140 Drake, S. A. Nooks and Corners of the N. Eng. Coast, 1875, pp. 416 f. Illus., after no. 16c, p. 416. — Generally admitted to be of Indian origin; but may be the work of white men, possibly of Verrazano's expedition. [140] Book of N. Eng. Legends and Folk Lore, 1884, pp. 395, 398. — Not Norse nor an intelligible record of any kind.

141 Drake, S. G., editor. Historical Memoir of the Colony of New Plymouth by F. Baylies. With some corrections, additions, and a copious index, by S. G. Drake. 1866, pt. v. p. 22 (by Drake). — Baylies' estimate of its character and antiquity is believed to be correct; previous to Indians, perhaps Phœnician.

142 Duane, Col. [Wm.?]. His "speculations on this subject," previous to 1824, referred to by Yates and Moulton, i. 82, have not been located.

143 Dublin Review, 1841, xi. 286. Successive Discoveries of America. Reprinted in Amer. Eclectic, 1842, iii. 242 ff. — Apparently Phœnician.

144 Du Bois, B. H. Did the Norse discover America? In Mag. of Amer. History, 1892, xxvii. 374. — Not Norse; archæologists now agree as to its Indian origin.

145 Dunkin, Christopher. Ms. letters to T. H. Webb, concerning copy of Sewall drawing, Sept. 24, Nov. 17, 1834. In ms. Corr. and Reports, R. I. Hist. Soc., ii. 27, 32; the copied drawing on p. 23.

146 Du Simitière, P. E. Inscription in Massachusetts. In ms. volume no. 1412 Quarto of Library Company of Phila. Written probably in 1781. — Mention of Berkeley's visit to Rock, Smibert's drawing, visit to Stiles.

147 Dwight, W. R. Paper read before Ethnographical Soc. of N. York. In Hist. Mag., 1859, iii. 362. — No opinion expressed; describes visit to Rock.

148 Eastman, S. Together with a "professed daguerreotypist of Taunton," made the first published photographic representation of the inscription, the daguerreotype of 1853. In Schoolcraft's Indian Tribes, 1854, iv. 120, Plate 14.

149 Eddy, W. P. With F. N. Ganong as photographer, produced a photograph in August, 1908. Published in his Prospectus of the Eddy House, Dighton.

150 Ellesmere, Francis Egerton, Earl of, editor. Guide to Northern Archæology, 1848, pp. 114–119. — No direct mention of the Rock; but expounds favorably Rafn's views of the visits of the Northmen.

151 Elliott, C. W. New England History, 1857, i. 34 f. — "The rocks may

go for what they are worth. The strongest proof is in the Sagas," of the Norse visits to New England.

152 ELLIS, G. E. Remarks on Rock. In Proc. Amer. Antiq. Soc., Oct. 21, 1867, p. 7 f. — Indian.

153 ELTON, ROMEO. On the Ante-Columbian Discovery of America. In Brit. Assn. Adv. of Science, Rep. of 18th Meeting, August, 1848, pt. ii. p. 94. — "The Norse discovery of America . . . is confirmed by the Dighton Rock, found there on the arrival of the first New England colonists." *See also* no. 68.

154 ENCYCLOPÆDIA BRITANNICA, 11th Edition, 1911, xxvi. 454. — Not Norse; "now known to be the work of Indians."

155 ENGLISH REVIEW, 1790, xv. 180–182. Review of papers by Lort and Vallancey. — Agrees with the view which it attributes to Berkeley, that the lines are not artificial, but the casual corrosion of the rock by the waves of the sea.

156 EVERETT, A. H. Discovery of America by the Northmen. In U. S. Mag. and Democratic Rev., 1838, ii. 156. A drawing and a painting made by S. J. Bower to illustrate this lecture, after nos. 17b and 18b, are owned by Amer. Antiq. Soc. — Norse origin of Rock is doubtful; but Norse settlement on Mount Hope Bay is "beyond controversy."

157–158 EVERETT, ED. Review of Gesenius' Versuch über die maltesische Sprache. In North Amer. Rev., 1820, x. 226 f. — Mention. [158] Discovery of America by the Northmen. In North Amer. Rev., 1838, xlvi. 188 f, 197. — "Wholly unconvinced" of Norse theory; may be due to Indians, even later than 1620, or to white men; cannot decide positively.

159 EVERETT, WM. Remarks on a proposed statue to Leif the Northman, May, 1880. In Proc. Mass. Hist. Soc., 1881, xviii. 79 f. — Mention.

160 EWBANK, T. North American Rock-Writing. In Hist. Mag., 1866, x. 257, 272, 306; reprint, 1866. — No mention of Rock; implies that it is Indian.

161 FALL RIVER NEWS AND TAUNTON GAZETTE, with assistance of Alanson Borden. Our County and Its People: A Descriptive and Biographical Record of Bristol County, Mass., 1899, p. 197. — Mention of Dighton Rock newspaper.

162 FARNUM, A. Visits of the Northmen to Rhode Island. R. I. Hist. Soc. Tracts, no. 2, 1877, pp. 5, 39. — Not Norse.

163 FARQUHARSON, R. J. On the Inscribed Tablets, found . . . in a mound near Davenport, Iowa. In Proc. Davenport Acad. of Nat. Sciences, 1876–1878, ii. 105. Paper read March 9, 1877. — Norse; accepts Rafn's views.

164 FAY, J. S. Track of the Norsemen. In Mag. of Amer. Hist., 1882, viii. 431–434. Also issued as a monograph of 7 pages, Boston, 1873 and 1876. — Mention. It is believed that the Norsemen settled in Narragansett Bay.

165 FERNALD, C. A. Universal International Genealogy and of the Ancient Fernald Families, 1910. Illus., nos. 16c, and 36. Numerous references to the Rock, and translations of it. — Rock contains inscriptions by Marcus Agrippa (29 B.C.), by his son Graecianus, by Christ (15 A.D.), and by Fnr Chia and Fna Bahman (222 A.D.). A masterpiece of seriously intended absurdities.

166–167 FISCHER, J. Die Entdeckungen der Normannen in Amerika, 1902. Also translation by B. H. Soulsby, 1903, pp. v, vi, 42 f. — Not Norse; without doubt of Indian origin. [167] Pre-Columbian Discovery of America. In Catholic Encyclopedia, 1907, i. 418 f. — Not Norse; merely Indian picture-writing.

168 FISHER, R. S. New and Complete Statistical Gazetteer of the U. S., 1853, p. 181. — Mention.

169 Fiske, J. Discovery of America, 1892, i. 213–215. — Not Norse; refers to "Rafn's ridiculous interpretation of this Algonquin pictograph."

Folsom, A. H. *See* no. 89.

170 Folsom, C. Remarks on Rock. In Proc. Amer. Antiq. Soc., Oct. 21, 1867, p. 7 f. — Indian.

171 Folsom, G. Discovery of America by the Northmen. In N. York Rev., 1838, pp. 361–363. — Norse, probably; "we shall not pretend to decide;" but "no reasonable doubt" of Rafn's location of Vinland.

172 Foreign Quarterly Review, 1838, xxi. 89 ff. Review of Antiquitates Americanæ. — Not Norse; "enough of these antiquarian absurdities."

173 Fossum, A. Norse Discovery of America, 1918, pp. 17 f. — Not Norse; Indian.

174–175 Foster, John Wells. On the Discovery of America. In Hesperian, 1838, i. 27. — Not Norse; "I know not why they may not have been made by the Indians." [175] Prehistoric Races of the United States, 1873, p. 400. A 6th ed., 1887. — Not Norse; "crude picture-writing of the savage."

176 Fowle, W. B., and Fitz, A. Elementary Geography for Massachusetts Children, 1845, p. 155. — Supposed to be earlier than Indians of colonial times.

177 Frederick VII, King of Denmark. Letter to N. Arnzen, May 7, 1861. Acknowledgment of donation of Rock to Roy. Soc. of Northern Antiquaries, May 27, 1861. *See* nos. 17, 18, 79.

178 Friedrichsthal, The Chevalier. Ms. letter to T. L. Winthrop, July 16, 1840; accompanied by drawing of Rock. Owned by Mass. Hist. Soc. — Not Norse.

179 Frothingham, N. L. Value of James Winthrop's reproduction of the inscription. In 4 Mass. Hist. Colls., 1854, ii. 142.

180 Fugl, N. Letter to Rafn, Jan. 20, 1840, on a comparison of the Sewall drawing with that of the R. I. Hist. Soc. In Mémoires de la Société Royale des Antiquaires du Nord, 1840–44, p. 8.

181 Funk and Wagnall's Standard Encyclopedia, 1912, ix. 64. — Indian.

182–183 Gaffarel, P. Étude sur les rapports de l'Amérique et de l'ancien continent avant Christophe Colomb, 1869, p. 130. — An indecipherable enigma. [183] Histoire de la découverte de l'Amérique depuis les origines jusqu'à la mort de Christophe Colomb, 1892, i. 80, 84 f, 88. Illus., after 18b, opp. p. 80. — An indecipherable enigma.

184 Gagnon, A. Les Scandinaves en Amérique. In Proc. and Trans. Royal Soc. of Canada for 1890, vol. viii. sect. i. pp. 43–50. — Norse, accepts Rafn's views.

Ganong, F. N. *See* no. 149.

185 Gardner, J. Author of lithograph of 1812.

186–187 Gardner, W. B. Photographer in the production of the Davis-Gardner version, 1873, and of the Harrison-Gardner version, 1875. Author of a descriptive paragraph printed on the mounts of these photographs, endorsing the theory and translation of Rafn.

188 Gazetteer of the World, London, 1886, i. 216, 630. — Mention; "supposed to be Norse."

Gebelin, Court de. *See* Court de Gebelin.

189 Gehlen, A. Latest Researches on the Discovery of America by the

Northmen. In Scientific American Supplement, 1903, lv. 22874 f. — Indian; not Runic, but Algonquin characters.

190 GELCICH, E. Zur Geschichte der Entdeckung Amerikas durch die Skandinavier. In Zeitschrift der Gesellschaft für Erdkunde zu Berlin, 1892, xxvii. 156. — Not Norse.

191 GENTLEMAN'S MAGAZINE, 1787, lvii. 699. Review of papers by Lort and Vallancey. — Natural corrosions; not Phœnician.

192 GJERSET, K. History of the Norwegian People, 1915, i. 214. — Indian.

193 GOODING, J. Collaborator, drawing of 1789. *See* W. Baylies.

194 GOODRICH, A. History of the character and achievements of the so-called Christopher Columbus, 1874, pp. 69–87. — No direct mention of Rock; but accepts conclusions of Rafn.

195 GOODWIN, J. A. Pilgrim Republic, 1888, pp. 129, 140. — Not Norse; may be by some prehistoric tribe.

196 GOSLING, W. G. Labrador, [1916], p. 1. — An Indian picture-writing.

197–198 GRAVIER, G. Découverte de l'Amérique par les Normands au X^e^ Siècle, 1874, pp. 91–97. Illus. [198] Notice sur le roc de Dighton . . . In Congrès international des Américanistes. Compte-rendu de la 1^e^ session, Nancy, 1875, pp. 166–192. Also separate reprint, Nancy, 1875. Illus., no. 18b. — Norse. Gives a translation slightly different from that of Rafn.

199–200 GREEN, S. A. Remarks concerning a recent visit to Rock. In Proc. Amer. Antiq. Soc., Oct. 21, 1867, p. 7. [200] Remarks on sculptured rocks in Rhode Island lately visited. In ibid., Oct. 21, 1868. — Indian.

201–203 GREENWOOD, ISAAC. Letter to J. Eames, Dec. 8, 1730. Letter A, actually sent on that date. Contains copied drawings of Danforth and Greenwood. In British Museum, Add. MSS. 6402.47, 106, 107. [202] Letter to J. Eames, Dec. 8, 1730. Letter B, the original rough draught, not sent until April, 1732. Contains the probable originals of the Danforth and Greenwood drawings, and the "Danforth slip." In British Museum, Add. MSS. 4432.185–189. [203] Letter to J. Eames, April 28, 1732. Letter C. In British Museum, Add. MSS. 4432.190.

204 GRINNELL, C. Photograph, about 1907.

205 GUDMONDSSON, F. Opinion on Rock, cited by J. Fischer in Discoveries of the Northmen, 1903, p. 42. — Rafn's theory quite untenable.

206 GUILLOT, P. Histoire des peuples du Nord ou des Danois et des Normands. (Translation of Henry Wheaton's History of the Northmen, 1831). . . . Édition revue et augmentée par l'auteur . . . traduit de l'Anglais par Paul Guillot, 1844, pp. 43n, 491–499 (by translator). Illus., after no. 18b, opp. p. 491. — Norse; accepts Rafn's views.

207 H., H. W. (H. W. HAYNES?) Review of De Roo's History of America before Columbus. In Amer. Hist. Rev., 1901, vi. 801. — Mention. *See also* no. 232.

208 H., W. D. Answer to a query. In Notes and Queries, 2nd series, 1858, v. 387. — Not Norse; Indian.

209 HALE, C. R. Essay on the Dighton Rock, 1865. An illustrated ms., 104 pp., owned by Amer. Antiq. Soc. — Not Norse; Indian.

210–216 HALE, E. E. Ms. Diary, July 31, 1839. Description of a visit to Rock and of making a drawing. [211] Ms. letter to S. F. Haven, Oct. 18, 1864, accompanying a gift of the A. H. Everett drawings to Amer. Antiq. Soc. Owned

by Society. See also Proc. Amer. Antiq. Soc., Oct. 21, 1864, p. 46n. [212] Report of Council. In Proc. Amer. Antiq. Soc., Oct. 21, 1871, p. 23. — Mention. 213] History of the U. S., 1887, p. 17. — Cannot be used as evidence for the Norse theory. [214–215] A Harvard Undergraduate in the Thirties. In Harper's Mag., 1916, cxxxii. 696. — Mention of Rock, under dates of Nov. 20, 24, 1837. [216] Life and Letters. Ed. by E. E. Hale, Jr., 1917, i. 32f 45, 59–63, 199, 360.

217 HALE, HORATIO, or NATHAN. Copy of Sewall drawing, and transcript of writing on it, Nov. 17, 1834. In ms. Corr. and Reports, R. I. Hist. Soc., ii. 23.

218 HALL, J. W. D. Dighton Writing Rock. In Colls. Old Colony Hist. Soc., 1889, No. 4, p. 97. — History of ownership.

219 HAMLIN, A. C. Cited by Lodge in 1874, as having unsuccessfully attempted a cast of Rock, and being of opinion that it is an ordinary Indian pictograph with no runic characters on it. A resident of Dighton recalls an attempted cast, probably this one, made not later than 1870.

220 HARPER'S ENCYCLOPÆDIA OF UNITED STATES HISTORY, [1901], x, article Vineland. Illus., after no. 29c. — Not Norse.

221 HARRIS, S. Translation of Dighton Rock inscription, about 1807. Cited by Kendall [269], and E. Everett [158]. — A Hebrew inscription in ancient Phœnician characters.

222 HARRISON, A. M. Made a topographical survey of Taunton river in 1875; embodied particulars concerning Rock in a separate paper filed in the office of the Survey; signed some copies of the Harrison-Gardner photograph as having been present when taken. *See* Report of the U. S. Coast Survey for the year ending June, 1876; U. S. Document, 1688; Executive Document no. 37, 44th Congress, 2nd session, Senate, p. 18.

223 HASKEL, D., and SMITH, J. C. Complete Descriptive and Statistical Gazetteer of the U. S., 1850, p. 177. — Mention.

224 HATHAWAY, C. A., Jr. Photograph, with Rock unchalked, taken in 1907.

225–229 HAVEN, S. F. Archæology of the U. S. In Smithsonian Contributions to Knowledge, 1856, viii. 28–35, 106 f, 133. — Indian. [226] Report of Librarian. In Proc. Amer. Antiq. Soc., April 29, 1863, p. 31. [227] Report of Librarian. In ibid., Oct. 21, 1864, p. 41. [228] Report of Librarian. In ibid., Oct. 21, 1867, p. 7. [229] Report of Council. In ibid., April 26, 1871, p. 21. — Not Norse.

230 HAWTHORNE, H. Old Seaport Towns of New England, 1916, pp. 250 f. — Not Norse.

231 HAY, JOHN. Erato: Class-day poem, June 10, 1858.

232 HAYNES, H. W. Historical character of the Norse sagas. In 2 Proc. Mass. Hist. Soc., 1890, v. 334 f. — Mention. *See also* no. 207.

233–235 HAYWARD, J. Gazetteer of N. England, 1839. [234] Gazetteer of Mass., 1846, pp. 33, 137. [235] Gazetteer of the U S. 1853, p. 350. — Mention.

236–238 HAZARD, E. Corr. with J. Belknap. In Belknap Papers, 1877, [236] i. 343, May 17, 1784; [237] i. 361, June 21, 1784; [238] ii. 77, Nov. 22, 1788. — Undeciphered.

239 HAZARD, T. R. Miscellaneous Essays and Letters, 1883, p. 329. — Norse.

240 HEADLEY, P. C. Island of Fire, 1875, p. 65. — Mention.

241 HENRICI, E. Amerikafahrer von Leif bis auf Columbus. In Beilage zur Allgemeine Zeitung, 1892, no. 87, April 12, pp. 1–5. — Norse. "The Runic stone of Dighton causes the last doubt concerning the situation of Weinland to

disappear. The voyages of the northmen extended surely to Florida and with the highest probability even to Brazil. Everywhere are found traces of the ancient colonies."

242 HERBERMANN, C. G. Northmen in America. In Hist. Records and Studies, published by U. S. Catholic Hist. Soc., 1903, vol. iii. pt. i. pp. 185–204. — "Instead of being runic, turns out to be Indian picture-writing."

243 HERMANNSSON, H. Northmen in America. In Islandica, 1909, ii. — No vestiges left by the Northmen have been found (Introduction). Mention of Rock in the bibliography.

244–245 HERMES, K. H. Entdeckung von Amerika durch die Isländer im zehnten und elften Jahrhunderte, 1844, Pref. and p. 123. Illus., after no. 18b. — Norse; a "most unambiguously testifying monument." [245] Discovery of America by the Icelanders. Translated by F. J. Grund. In Graham's Amer. Monthly Mag., 1853, xlii. 545–562. — An abstract of the German work.

246–247 HIGGINSON, T. W. Visit of the Vikings. In Harper's Mag., 1882, lxv. 515–527. Illus., after no. 29c, p. 515. — Not Norse; Indian. [247] History of the U. S., 1882, pp. 28–51. Illus., after no. 29c, p. 45. — Reproduces no. 246.

248 HIGGINSON, T. W., and MACDONALD, W. History of the U. S., 1905, pp. 40 ff. — Essentially the preceding account, with a few alterations.

249 HILL, I. Antiquities of America Explained, 1831, pp. 70–76. Illus., no. 16b. — Inscription due to Jewish and Tyrian sailors, in second month of tenth year of the reign of Solomon (about 1000 B. C.); full translation.

250 HITCHCOCK, E. Explanatory note in Catalog of New England Indian Relics in Gilbert Museum of Amherst College, 2nd ed., 1904. Illus., after no. 29c, Plate VI.

251 HOLLAND, W. J. Petroglyphs at Smith's Ferry, Pennsylvania. In International Congress of Americanists, 13th session held in New York in 1902, pp. 1–4. — Similar to Dighton Rock; due to Indians.

252 HOLMBERG, A. E. Skandinaviens Hällristningar, 1848, pp. 146–153. Illus., no. 18b, tab. 45, fig. 165. — Norse; the Rafn version.

253 HOLMES, A. Life of Ezra Stiles, 1798, p. 119. — Non-committal.

254 HOLMES, W. H. Dighton Rock. In Art and Archæology, 1916, iii. 53–55. Illus., no. 33. — No opinion expressed. Apparently a verbatim reprint from Thomas, with an addition concerning Lundy.

255 HORSFORD, E. N. Discovery of America by Northmen. Address at the unveiling of the statue of Leif Eriksen, Oct. 29, 1887 (1888), pp. 23 f., 65. Illus., after 17b, p. 24. — Not Norse; Indian.

256 HOSMER, HEZEKIAH L. Origin of Our Antiquities. In Overland Monthly, 1872, ix. 531 f. — Norse; if Icelandic manuscripts are genuine, "there is abundant reason to believe that all the antiquities of North America owe to the Northmen their origin."

257 HOVGAARD, W. Voyages of the Norsemen to America, 1914, pp. 115 ff. — Not Norse; Indian.

258 HOWARD, R. H., and CROCKER, H. E. Popular History of N. Eng., 1881, i. 122. — Mention.

259 HUMBOLDT, F. H. A. VON. Vues des Cordillères et monuments des peuples indigènes de l'Amérique, 1810, i. 180. Researches, concerning the Institutions and Monuments of the Ancient Inhabitants, of America, . . . Translated into English by H. M. Williams, 1814, i. 149–155. — Work of the natives.

260 Independent Chronicle, Boston, May 19, 1819, p. 1/5. American Antiquities. From Newburyport Herald of May 4. The "Writing Rock." — Mention.

261 Independent de Fall River, L', 14 Juillet, 1915, pp. 17, 23. Les Phéniciens ont-ils connu l'Amérique? L'inscription du Rocher de Dighton. Des Phéniciens auraient visité la Baie Mount Hope, dans l'antiquité. Illus., no. 11c, p. 17. — A reprint from Gebelin; editorial comment non-committal.

262 Irving, W. Review of Bancroft's History of the U. S., 1841. In Biographical and Critical Miscellanies, 1863, i. 330 f. — Indian.

263 Jameson, J. F., and Buel, J. W. Encyclopedic Dictionary of the United States, 1901, i. 219. — Rafn's view "has now been generally abandoned, though the central portion may be Norse."

264 Jomard, E. F. Seconde note sur une pierre gravée, trouvée dans un ancien tumulus américain, et . . . sur l'idiome libyen, [1845]. — Inscription is in Libyan characters. *See* no. 468.

265 Journal Politique ou Gazette des Gazettes, Bouillon, June, 1781, p. 65. — Gebelin's Carthaginian interpretation.

266 Kaiser, W. Entdeckungen der Normannen im Grönland und in Amerika, 1882, p. 17. — Norse; "for unbiassed observers no doubt can remain that it is an inscription by Thorfinn."

267–269 Kendall, E. A. Painting in oil, 1807. Now in Peabody Museum. [268] Account of the Writing-Rock in Taunton River. In Memoirs Amer. Acad. of Arts and Sciences, 1809, iii. 164–191. A letter to J. Davis, dated Oct. 29, 1807. Illus., no. 15b. — Origin undetermined. [269] Travels, 1809, ii. 219–232; iii. 205–222. — Unquestionably Indian; an unreadable record of some unknown transaction.

270 Kinnicutt, L. N. Indian Names in Plymouth County, 1909, p. 42. — Indian.

271 Kittredge, F. E. Letter to Edwin M. Stone. In Proc. R. I. Hist. Soc., 1872–73; Report by the Librarian, Jan. 21, 1873, p. 72. — No opinion expressed.

272 Kittredge, G. L. Cotton Mather's Scientific Communications to the Royal Society. In Proc. Amer. Antiq. Soc., April, 1916, xxvi. 18–67.

273 Kneeland, S. An American in Iceland, 1876, p. 224. — Norse.

274 Kunstmann, F. Entdeckung Amerikas, 1858, p. 29. — Norse; accepts Rafn's views.

275 Lagrèze, G. B. de. Les Normands dans les deux mondes, 1890, p. 352. — "In several parts of America have been found stones with runic inscriptions."

276 Laing, S. The Heimskringla, 1844, i. 174–183; 2nd ed., 1889, pp. 218 ff. Illus., after no. 17b, p. 175; nos. 14e and 18b, p. 176. — Not Norse; might belong to any people or period one may please to fancy.

277 Lanier, S. Psalm of the West. In Lippincott's Mag., June 1876; and in Poems, 1909, pp. 114–138.

278 Lathrop, John. Letter to J. Davis, Aug. 10, 1809, describing Washington's visit to the Harvard Museum. In Proc. Mass. Hist. Soc., 1869, x. 114. — Washington believed it to be Indian.

279 Lelewel, J. Géographie du Moyen Age, 1852, iii-iv (in one volume). p. 82. Illus., after no. 17b, Plate I. — Norse; accepts Rafn's views.

280 Libri-Carrucci dalla Sammaia, G. B. I. Timoleone, Conte. Introduction, dated March 7, 1861, to Cat. of the Mathematical, Historical, Biblio-

graphical and Miscellaneous portion of the Celebrated Library of M. Guglielmo Libri, pt. i. p. vi. — Inscriptions left by the Norsemen on rocks are the best proof of their visits to America.

281 LIPPINCOTT'S GAZETTEER OF THE WORLD, 1906, p. 203. — Mention.

282 LODGE, H. C. Critical Notice of Gravier's Découverte de l'Amérique par les Normands. In North Amer. Rev., 1874, cxix. 173–175. — All the best American authorities agree that it is wholly of Indian workmanship.

283 LÖFFLER, E. Vineland Excursions of the ancient Scandinavians. In Congrès international des Américanistes. Compte-rendu de la 5e session, Copenhague, 1883, pp. 64–73. Illus., after no. 29b, p. 70. — Indian.

284–285 LORT, M. Account of an antient Inscription in North America. Read Nov. 23, 1786. In Archaeologia, 1787, viii. 290–301. Illus., nos. 1d, 2a, 5c, 11b, in Plates XVIII, XIX. — First historical survey. At first thought the inscription was Indian; non-committal as to present opinion. [285] Letter to Bishop Percy, April 16, 1790. In J. B. Nichols's Illustrations of the Literary History of the Eighteenth Century, 1848, vii. 504–506. — Much disposed now to believe it due to natural corrosion of the rock.

286–287 LOSSING, B. J. Pictorial Field-Book of the Revolution. First issued in numbers, 1850–52; frequently reprinted; i. 633–635. Illus., no. 16c. — Record of a battle with Indians, made by Scandinavians acquainted with the Phœnician alphabet. [287] Centennial Edition History of the United States, 1876, p. 35. — Norsemen left no traces except the tower at Newport.

288–289 LOWELL, J. R. Biglow Papers (1890). [288] 1st Series, 1848, no. vii, p. 115; [289] 2nd Series, 1862, no. iii, p. 278; iv, p. 297; v, pp. 311–318. — A parody of the Norse theory.

290 LUBBOCK, Sir J. Pre-historic Times, 1865. 3rd ed. 1872, p. 278. — Non-committal.

291 LUNDY, J. P. Communications on Mongolian symbolism and on Dighton Rock. In Proc. Numismatic and Antiq. Soc. of Philadelphia for 1883, pp. 7–8. Meetings of March 1, April 5. — Chinese; full translation given.

292 M'CULLOCH, J. R. Gazetteer, 1843. — Never satisfactorily explained.

293–294 MCLEAN, J. P. Study of American Archæology. In Universalist Quart. and Gen. Rev., 1881, xxxviii. (N. S. xviii.) 285. — Indian; contains numerous errors. [294] Critical examination of the evidences adduced to establish the theory of the Norse discovery of America. In American Antiquarian, 1892, xiv. 33–40, 87–94, 139–154, 189–196, 271–276. Separate reprint, Chicago, 1892. Illus., after no. 24, opp. p. 192. — Not Norse.

295 MADDEN, Sir F. Index to the Additional Manuscripts preserved in the British Museum, 1849. — Reference, under Greenwood.

296 MAGNUSEN, F. Translation of the inscription as a Norse record. In Antiquitates Americanæ, 1837, pp. 378–382.

297–298 MALLERY, G. Pictographs of the North American Indians. In Fourth An. Rep. Bureau Amer. Ethnology for 1882–83 (1886 [1887]), pp. 20, 250. — An Indian pictograph. [298] Picture-writing of the American Indians. In Tenth An. Rep. Bureau of Amer. Ethnology for 1888–89 (1893 [1894]), pp. 35, 86, 762. Illus., no. 24, p. 86, fig. 49; nos. 1d, 2a, 5c, 11b, 12b, 14e, 15c, 16c, 18b, on Plate LIV, p. 762. — An Indian pictograph.

299 MARSH, G. P. Man and Nature, 1864, p. 60n. — Not Norse; but accepts Rafn's localities.

300–302. Mass. Hist. Society. Proceedings, ii. 309, March, 1845; viii. 96, Jan. 1865; x. 470, Feb. 1869. Other references to publications of the society under names of persons. — Mention.

303–308 Mather, Cotton. Dedicatory Epistle to Sir H. Ashurst, in Wonderful Works of God Commemorated, 1690. Illus., no. 1b. — First printed account and illustration of the inscription. [304] 2nd ed., 1703. [305] Letter to R. Waller, Nov. 28, 1712. Ms. in Letter-Book of Royal Soc., M 2.21.32. [306] Extract of several Letters from C. Mather, to J. Woodward, and R. Waller. In Phil. Trans., no. 339, April–June, 1714, xxix. 70, 71. Illus., no. 2a, in Plate, Fig. 8. [307] Republication of letter on Rock. In Phil. Trans., abridged by H. Jones, 1721, vol. v. pt. ii. p. 165. Illus., no. 2a, Plate VIII, Fig. 72, p. 190. [308] Broadside, with description of Rock and drawing of the inscription. Date of issue unknown, probably about 1714.

309 Mathieu, C. L. Le Printemps, Nancy, [1816?]. Contains an account of Rock, reprinted in American Monthly Mag. and Critical Rev., 1817, i. 257–262. — A record made by In, son of Indios, King of Atlantis, in Anno Mundi 1902.

310 Melville, D. Letter concerning Rock, the Stone Tower in Newport, and the Antiquarian hoax, March 23, 1848. In Brooks's Controversy touching the Old Stone Mill, 1851, pp. 51–54. — Indian.

311 Meyer's Konversations-Lexikon. 6th ed., 1904, v. 3. — Not Norse.

312 Miller, W. J. Notes concerning the Wampanoag Tribe of Indians, 1880, p. 119. 2nd ed., under title King Philip and the Wampanoags of R. I., 1885. — No direct mention of Rock; but the one on Mount Hope Bay is Norse.

313 Mitchill, S. L. Discourse delivered Nov. 7, 1816. In Archæologia Americana, 1820, i. 340. — Disputes Mathieu's theory. *See also* no. 7.

314 Mogk, E. Entdeckung Amerikas durch die Nordgermanen. In Mittheilungen des Vereins für Volkskunde zu Leipzig, 1892, pp. 57–89. Separate reprint, 1893. — Not Norse; Indian.

315 Mohawk Indians, cited by Kendall in 1807, in Memoirs Amer. Acad. of Arts and Sciences, 1809, iii. 182. — Interpretation of the inscription as an Indian record.

316 Monthly Review, 1788, lxxix. 424. Review of Archaeologia, 1787, viii. — Mention.

317 Moosmüller, P. O. Europäer in Amerika vor Columbus, 1879, pp. 130, 138–143. English translation, 1911. — Norse; follows Rafn's account.

318 Moreau de Dammartin. La Pierre de Taunston. In Journal de l'Institut Historique, 1838, ix. 145–154. Published also as an autotype lithograph under the title: Explication de la Pierre de Taunston, Paris, n.d., 28 pp. Illus., no. 11d; a second plate analyzing and explaining the same. — An Egyptian representation of the celestial sphere.

319 Morgan, T. Old found lands in North America. In Trans. Royal Hist. Soc., 1874, N. S., iii. 75–97. — Does not seem to be Scandinavian.

320 Morse, J., and R. C. New Universal Gazetteer, 3rd ed., 1821, p. 221. — "No satisfactory account has been given."

321 Moulton, J. W. History of the State of New York. By J. V. N. Yates and J. W. Moulton, 1824, vol. i. pt. i. pp. 84–86, 313. "Mr. Moulton is in fact the sole author of this scarce book" (Sabin, xii. 440). — Inclined to believe it of Phœnician origin.

322 MULHALL, M. McM. Explorers in the New World before and after Columbus and Story of Jesuit Missions of Paraguay, 1909, p. 4n. — Mention.

323 NADAILLAC, J. F. A. DU POUGET, Marquis de. L'Amérique préhistorique, 1883, pp. 556 f. (For American edition of 1884, *see* Dall). — Certainly not Indian; Norse theory the most plausible explanation.

324 NASON, E. Gazetteer of Mass., 1874; enlarged ed., 1890. 1st ed., pp. 78 f, 181; 2nd ed., pp. 142 f, 274. Illus., after no. 20. — Probably Indian.

325 NATION, THE, N. Y., 1882, xxxv. 178. Comment on Higginson's paper in Harper's Mag. — Mention.

326–327 NATIONAL INTELLIGENCER, Washington, Sept. 28, 1848, p. 3/2; Oct. 4, 1848, p. 3/1. — Mention.

328–329 NATIONAL QUARTERLY REVIEW, 1873, xxviii. 96. Discovery of America by the Northmen. — Norse reading has been questioned. [329] 1876, xxxiii. 20. Pre-Columbian Discoveries of America. — Doubtful.

330 NEAL, D. History of N. Eng., 1720, ii. 593. 2nd ed., 1747. — Quotation from Cotton Mather.

331 NELSON'S LOOSE-LEAF ENCYCLOPÆDIA, 1907. Dighton Rock. — Indian.

332 NEUKOMM, E. Les Dompteurs de la Mer, 1895. Two translations: Rulers of the sea, Boston, 1896; and Tamers of the Sea, N. Y., 1897. 1896 ed., pp. 99–101. Illus., after no. 18b, p. 101. — Norse; follows Rafn's account.

333 NEW BEDFORD MERCURY, May, 1819. Notice on Rock, quoted in Independent Chronicle, May 19, 1819. — Mention.

334 NEWBURYPORT HERALD, May 4, 1819. Quoted in Independent Chronicle, May 19, 1819. — Mention.

335 NEW INTERNATIONAL ENCYCLOPÆDIA. 1st ed. 1902; 2nd ed. 1915. — Indian.

336 NEW YORK HIST. SOCIETY, Proceedings, Nov. 3, 1846: appointment of a committee consisting of H. R. Schoolcraft, M. S. Bidwell, and J. R. Bartlett, "to investigate the character and purport of the ancient pictorial inscription or symbolic figures of the (so-called) Dighton Rock." There is no record of a report by this committee: but see nos. 39, 400, 401.

337 NEW YORK TIMES, 1890. *See* no. 6.

338 NICHOLS, W. D. Berkley. In Hurd's History of Bristol County, Mass., 1883, p. 181. — Mention.

NORRAENA SOCIETY. *See* nos. 11, 49.

339 NORSEMEN MEMORIAL COMMITTEE, Boston, Jan. 12, 1877. Leaflet issued by the committee announcing its election Dec. 8, 1876, to take measures to erect a monument in honor of the Norsemen and for the protection of Dighton Rock, "a valuable historic relic of American Antiquity."

340–341 OLD COLONY HIST. SOCIETY. Broadside on Dighton Rock, issued about 1882. — Illus., after No. 29c. [341] Photograph, 1902, taken by A. L. Ward under direction of J. E. Seaver, sec. of the society.

342 ONFFROY DE THORON, DON ENRIQUE, Vicomte. 'Les Phéniciens à l'Ile d'Haiti et sur le Continent Américain, 1889, pp. 37–48. Illus., after no. 18b, p. 40. — Sepulchral monument of a Phœnician adventurer, about 330 B. C.; translation given.

343–344 PADDACK, E. Ink-impression of part of the inscription, taken August, 1767, now in Amer. Acad. of Arts and Sciences. Also ms. letters describing the same, Aug. 15, 1767, Jan. 7, 1768, in Stiles Collection, Yale University Library.

345 PALFREY, J. G. History of N. Eng., 1858, i. 56n. — Probably Indian.

346 PAYNE, E. J. History of the New World called America, 1892, i. 85. — Not Norse; quite certain that it is Indian.

347–349 PEABODY MUSEUM, Harvard University, Annual Reports: [347] i. 22, 6th, 1873; [348] ii. 13, 13th, 1876; [349] iii. 15, 14th, 1880. — Mention.

350 PECK, J. T. History of the Great Republic considered from a Christian Stand-Point, 1868, p. 20. — Norse; Rafn's localities accepted.

351–353 PESCHEL, O. Geschichte des Zeitalters der Entdeckungen, 1858. 2te Auflage, 1877, p. 82. — Norse; follows Rafn. [352] Geschichte der Erdkunde, 1865, p. 78. — Bancroft's opinion. [353] Review of Gravier's Découverte de l'Amérique par les Normands. In Jenaer Literaturzeitung, 1874, no. 17, April 25. — Norse; follows Rafn; but mentions dissenting opinions without comment.

354 PETERS, A. Ed. note to Schoolcraft's Ante-Columbian Hist. of America. In American Biblical Repository, 1839, 2nd series, i. 441. — Not Norse; Indian.

355 PETERSEN, E. History of Rhode Island, 1853, pp. 174–178. — Mention.

356 PIDGEON, W. Traditions of De-Coo-Dah and Antiquarian Researches, 1853, p. 20. — Phœnician.

357 PINTARD, J. Letter to J. Belknap, Aug. 26, 1789. In Belknap Papers 1891, iii. 447. — Mention.

358 POOL, G. L. An Antiquity Discovered in the Valley of the Merrimack. In N. Eng. Hist. Gen. Register, 1854, viii. 185. — Thinks it similar to Rock.

359–360 POWER, L. G. Vinland. In Colls. Nova Scotia Hist. Soc., 1891, vii. 18. — Not Norse. [360] The Whereabouts of Vinland. In N. Eng. Mag., 1892, N. S., vii. 174. — Mention.

361–362 PROVIDENCE DAILY JOURNAL, Dec. 2, 1869. Editorial comment of Farnum's paper on visits of Northmen to R. I. — Not Norse; mentions "the merited ridicule heaped on Dighton Rock and the Old Stone Mill." [362] July 15, 1912. Account of the Dighton Bi-Centennial. Illus., after no. 35.

363 PUTNAM'S MONTHLY MAGAZINE, 1854, iv. 467. First Discoverers of America. — Norse. The Rock and the Newport Mill "are slowly and surely moulding public opinion to a favorable reception" of the Norse claims.

364–369 RAFN, C. C. Antiquitates Americanæ, 1837, pp. xxix–xl, historical Introduction; 355–396, Dighton Rock; 396–405, inscribed rocks in Rhode Island. Illus., no. 17b, Tab. X; nos. 1d, 2a, 5c, 11b, 12b, 15c, 16c, Tab. XI; nos. 14e, 18b, Tab. XII. — A record made in 1008 by Thorfinn and his 151 companions, original source of the Norse theory. [365] America discovered in the tenth Century, 1838. — Mention. [366] Letter to D. Melville, Jan. 4, 1848. In Brooks's Controversy touching the Old Stone Mill, 1851, pp. 80 f; and in Petersen's Hist. of R. I., 1853, p. 174. — "We must be cautious in regard to the inferences to be drawn from . . . the early monuments." [367–369] Letters to N. Arnzen concerning removal of Rock to Denmark, dated Aug. 16, 1859; Aug. 30, Oct. 10, 1860; Sept. 3, 1861. In Arnzen's Report, Colls. Old Colony Hist. Soc., 1895, no. 5, p. 95. — The Rock is "of high and pressing importance."

370–371 RAU, C. Observations on the Dighton Rock inscription. In Mag. of Amer. Hist., 1878, ii. 82–85. Reprinted in Amer. Antiquarian, 1878, i. 38, and in Kansas Review, ii. 168. — Advises caution in accepting the Norse theory. [371] Dighton Rock inscription, an opinion of a Danish archæologist. In Mag. of Amer. Hist., 1879, iii. 236–238. — Worsaae's opinion: Indian, not Norse.

372 RECLUS, É. Nouvelle Géographie Universelle, 1890, xv. 12. — Not Norse.

373 REEVES, A. M. Finding of Wineland the Good, 1890, p. 97. — Rafn's theories have fallen into disfavor.

374 RÉMUSAT, J. P. A. Letter to Dr. Benj. B. Carter of New York, Feb. 4, 1823. Ms., owned by Amer. Antiq. Soc. — Indecipherable; doubtful if it has any letters or symbolic characters.

375 RHODE ISLAND HIST. SOCIETY. Drawing by a committee of the Society, about Sept. 4, perfected Dec. 11, 1834. Published, with conjectural additions by Rafn, in Antiquitates Americanæ, 1837.

376–386 RHODE ISLAND HIST. SOCIETY. Ms. volumes entitled: Correspondence and Reports, vols. i and ii; Records, vol. i; Trustees' Records, vol. i. [376] In 1829, appointment of committee consisting of Richmond and Staples to answer letter from Rafn. [377] 1830, addition of Webb to committee; replies sent to Rafn. [378] 1831, Annual Report. [379] 1833, appointment of committee on the antiquities and aboriginal history of America, consisting of Webb, Bartlett, and Greene. [380] This committee in 1834 made new drawings of Rock and sent further communications to Rafn. [381] In 1835, further reports of committee, visits to other inscribed rocks, and letters to Rafn. [382–386] 1836–1841, Annual Reports mention Rock, measures for its preservation, importance of inscription rocks, and further correspondence with Denmark.

387 RIDER, S. S. In Book Notes, 1892, ix. 254 f. — Mention.

388 RIVERO, M. E., and TSCHUDI, J. J. von. Peruvian Antiquities. Translated by F. L. Hawkes, 1853, pp. 5, 21. — Supposed to give confirmatory evidence of the visits of the Scandinavians.

389 RÖTTINGER, H. Entdeckung Amerikas durch die Normannen im 10. und 11. Jahrhundert, 1912, p. 18. — "An indisputable proof of the presence of the Northmen in America."

390 ROUX DE ROCHELLE, J. B. G. États-Unis d'Amérique, 1853, pp. 161 f. Illus., no. 12b. — Engraved by ancient American people, predecessors of Indians.

391–392 ROYAL SOCIETY OF LONDON. Ms. Register-Book, June 15, 1732: Copy of Greenwood's letter to Eames. [392] Minutes, 1775. Abstract of John Winthrop's letter.

393–394 ROYAL SOCIETY OF NORTHERN ANTIQUARIES, Copenhagen. General Anniversary Meeting, 15th February, 1851. — Mention. [394] Letter from J. J. A. Worsaae and three other officials to N. Arnzen, Feb. 22, 1877, expressing opinion of society that figures on Rock are not Norse, but Indian. Owned by Old Col. Hist. Soc.

395 RUGE, S. Entdeckungs-Geschichte der neuen Welt. In Hamburgische Festschrift zur Erinnerung an die Entdeckung Amerikas, 1892, i. 8 f. — Not Norse; "mere Indian picture-scratchings."

396 SANFORD, E. History of Berkley, Mass., 1872, pp. 59 f. — Mention.

397 SARGENT, P. E. Handbook of New England, 1916, p. 578. — Indian.

398–403 SCHOOLCRAFT, H. R. Ante-Columbian history of America. In Amer. Biblical Repository, 1839, i. 441 ff. Illus., after no. 17b, p. 440. — Not Runic. Records an event manifestly of importance in Indian history. [399] Incentives to the study of the Ancient Period of American History. Address delivered before the N. York Hist. Soc., 17th Nov. 1846 (1847), p. 10. — "We are by no means sure" that the localities and monuments mentioned by Rafn ever had any connection with the Scandinavians. [400] Original drawing of the

alleged Roman letters in the central part of the inscription, made in August, 1847; published in no. 401. [401] History of the Indian Tribes, 1851, i. 106–120, 125. Illus., no. 23 together with combination of 14e and 18b, Plate 36, p. 114; and an analytical Synopsis of the inscription, Plate 37, p. 119. — Central characters are Scandinavian. All the rest is Indian; Chingwauk's interpretation of it is given. [402] History of the Indian Tribes, 1854, iv. 119 f. Illus., no. 24, Plate 14, p. 120. — "It is entirely Indian." [403] History of the Indian Tribes 1860, vi. 113 f, 605, 609. — An Indian record of battle between two tribes.

404 SEAGER, E. Two india-ink drawings, made with assistance of C. R. Hale in 1864. Owned by Amer. Antiq. Soc.

SEAVER, J. E. *See* no. 341.

405 SEWALL, R. K. Ancient Voyages to the Western Continent, 1895, pp. 12, 23. — "Deighton Rock and Monhegan . . . are possible footprints not of Northman visits alone but of Phœnician adventure here."

406 SEWALL, SAMUEL. Letter-Book (1886), i. 116. Memorandum of Febr. 24, 1691. — Mention.

407–409 SEWALL, STEPHEN. Author of drawing of Sept. 13, 1768. Owned by Peabody Museum. [408] Ms. letter to E. Stiles, Jan. 13, 1769. In Stiles Collection, Yale University Library. — Indian; without significance. [409] Letter to Court de Gebelin, 1781, accompanying copy of his drawing. In Gebelin's Monde Primitif, 1781, viii. 58 f.

410 SHAFFNER, T. P. History of the U. S., n. d. [about 1862]. — Norse.

411 SHIPLEY, J. B., and M. A. English Rediscovery and Colonization of America, 1891, p. 7. — No direct mention; but Vinland was Rhode Island and Massachusetts, and "traces of their long-continued presence have been found . . . in various parts of New England."

412 SHORT, J. T. Claims to the discovery of America. In Galaxy, 1875, xx. 517. — Not Norse; Indian.

413–415 SHOVE, G. A. Lithograph of Rock, 1864. Made also many other drawings and paintings of Rock, much resembling the lithograph. [414] Dighton. Chapter xix in Hurd's History of Bristol County, Mass., 1883, pp. 250 f. Illus., after no. 29c. — Probably not Norse; little opposition to the Indian view. [415] Toast to "The South Purchase." In Quarter Millennial Celebration of Taunton, Mass., June 4 and 5, 1889. — Mention.

416 SIBLEY, J. L. Description of the restoration of the Sewall drawing in 1860. Ms., attached to the original drawing, in the Peabody Museum.

417–418 SINDING, P. C. History of Scandinavia, 1858. [418] Scandinavian Races, 1876, p. 84. — Norse; accepts Rafn's opinions.

419–420 SLADE, E. Letters describing Rock, Dec. 17, 1875, March 13, 1876. In R. B. Anderson's America not discovered by Columbus, 2nd ed. 1877, p. 21, 33. — Not Indian.

421 SLADE, W. A. King Philip Country. In N. Eng. Mag., 1898, xxiv. 609. Illus., after no. 29c, p. 606. — Has some value as evidence for Norse visits.

422–423 SLAFTER, E. F. Voyages of the Northmen to America (Prince Society), 1877, pp. 11, 132–134, 137, 140. — There is left no trace of belief in Norse origin of Rock and Newport mill "in the minds of distinguished antiquaries and historians." [423] Discovery of America by the Northmen, 985–1015. Discourse delivered before N. Hamp. Hist. Soc., April 24, 1888. Also read before Bostonian Society, Dec. 10, 1889. In Proc. N. Hamp. Hist. Soc., ii; and in Granite Monthly, 1890, xiii. 201 f. Separate reprint, 1891. — Indian.

424 SMIBERT, J. Drawing of Rock, about 1729, not now discoverable.

425–426 SMITH, B. Paper on Rock. Abstract in Proc. Amer. Antiq. Soc., April 29, 1863, p. 31. — Inscription by a Roman Catholic missionary, about 1520. [426] Ms. letter to J. R. Bartlett, July 14, 1864. In Letter-Book of J. R. Bartlett, in John Carter Brown Library.

427 SMITH, J. V. C. Letter on Rock and Fall River skeleton, June 15, 1842. In Mémoires de la Société Royale des Antiquaires du Nord, 1840–1844, p. 116.

428 SMITH, JOHN. Ms. letter to E. Stiles, July 25, 1789, describing the making of the drawing by himself, Dr. Baylies and others. In Stiles Collection, Yale University Library. — Queries if it may not be Asiatic.

429 SMITH, JOSHUA T. Northmen in New England or America in the Tenth Century, Boston, 1839, pp. 310–328. London editions of 1839 and 1842 bear title: Discovery of America by the Northmen in the tenth century. — An exposition and defence in dialogue form of Rafn's opinions.

430 SOCIETY OF ANTIQUARIES OF LONDON. Ms. Minutes, ii. 2; Nov. 9, 1732. — Copy of Greenwood's letter to Eames.

431 SPENCE, L. Myths of N. American Indians, 1914, p. 16. — Not Norse; Indian.

432 SPOFFORD, A. R. Library of Historic Characters and Famous Events. Edited by A. R. Spofford and Others, 1895, i. 108. — Not Norse.

433–434 SQUIER, E. G. Ms. letters to J. R. Bartlett, Nov. 7, 1846, Jan. 24, 1847. In Letter-Book of J. R. Bartlett, in John Carter Brown Library. — Indian inscriptions resembling that of Dighton Rock.

435 SQUIER, E. G., and DAVIS, E. H. Ancient Monuments of the Mississippi Valley. Smithsonian Contributions to Knowledge, 1847, i. 298, 300. — Indian.

436–437 SQUIER, E. G. Alleged Monumental Evidence of the Discovery of America by the Northmen, Critically Examined. In Brit. Ethnol. Journal, December, 1848. Reprinted in the National Intelligencer, March 27, 1849, p. 2/1–3. — Not Norse. The conclusion is irresistible that this rock is a true Indian monument and has no extraordinary significance. [437] Ancient Monuments of the U. S. In Harper's Mag., 1860, xx. 738. — Indian.

438 STANDARD DICTIONARY. Ed. 1903, p. 2242, mention; ed. 1913, no mention.

439 STARK, J. Antiquities of North America. In Amer. Monthly Mag., 1836, N. S., i. 71; and in Amer. Mag. of Useful and Entertaining Knowledge, 1837, iii. 433. — No sufficient explanation yet given; believes it Phœnician.

440–443 STILES, E. Drawings of Rock: June 6, July 15, 1767, in his Ms. Itinerary, ii. 273–283, in Yale University Library; [442] July 16, 1767, owned by Mass. Hist. Soc.; [443] Oct. 3, 1788, not preserved.

444 STILES, E. Ms. letter to John Winthrop, June 15, 1767. In Stiles Collection, Yale University Library. — Mention.

445–448 STILES, E. Descriptions and drawings of Rock and other inscribed rocks, 1767, 1768, 1783, 1788, in his ms. Itineraries, in Stiles Collection, Yale University Library, ii. 245, 265 f, 272–315, 333, 345, 347, 351 f; iii. 600; iv. 251, 254 f.

449 STILES, E. Itineraries and Correspondence, 1916, p. 234. — Visit to the Rock of June 5 and 6, 1767.

450 STILES, E. The United States elevated to Glory and Honor. A Sermon, Preached May 8th, 1783, pp. 11 ff. — Phœnician.

451 STILES, E. Account of two Inscriptions upon Rocks in Kent and Wash-

ington in the Western Part of the State of Connecticut, taken off 1789 by Ezra Stiles, and by him communicated to the Acad^{y} of Arts & Sciences, June 8, 1790. Ms. owned by Amer. Acad. of Arts and Sciences. — Contains extended discussion of Dighton Rock as a Phœnician inscription.

452–455 STILES, E. Literary Diary, 1901, [452] i. 20, 1782; [453] i. 72, 1783; [454] i. 330, 1788; [455] i. 402, 1790. — Mention.

456 STONE, E. M. Report of the Northern Department, Jan. 21, 1873. In Proc. R. I. Hist. Soc., 1872–3. — Mention.

457 SVEINSON, Dr. Cited by Fischer, in his Discoveries of the Norsemen in America, 1903, p. 43. — Not Norse.

458 SWEETSER, M. F. New England, 1873, p. 39. — Mention.

459 SYLVESTER, H. M. Indian Wars of New England, 1910, i. 28–30, note. — Not Indian; possibly Phœnician. "Its antiquity is more remote, possibly, than as yet has been accorded it."

460 TAUNTON, Mass. Quarter Millennial Celebration of, June 4 and 5, 1889, pp. 141, opp. 179.

461 TAUNTON DAILY GAZETTE, Jan. 11, 1902, p. 6/4. Sketches of Taunton History, second paper. — Norse theory possible, but not proved.

462 TAUNTON WHIG, Jan. 23, 1839, p. 2/3–5. Dighton Rock. — Phœnician.

463 TAYLOR, J. L. American Antiquities. In Bibliotheca Sacra, 1855, xii. 460. — Mention.

464–465 THOMAS, C. Catalogue of Prehistoric Works East of the Rocky Mountains. Bureau of Amer. Ethnology, Bulletin 12, 1891. — Does not include Dighton Rock. [465] Dighton Rock. In Handbook of American Indians North of Mexico, 1907, i. 390 f. Illus., after no. 33. — Indian.

466 TUCKER, C. R. Photograph, 1903.

467 UNIVERSAL CYCLOPÆDIA AND ATLAS, 1901. — Indian.

468 VAIL, E. A. Notice sur les Indiens de l'Amérique du Nord, 1840, pp. 36 f. — Mention; quotes Jomard's opinion.

469 VALLANCEY, C. Observations on the American Inscripton. Read Feb. 9, 1786. In Archaeologia, 1787, viii. 302–3. — Made by Tartars of Siberia.

470 VETROMILE, E. Abnaki Indians. In Colls. Maine Hist. Soc., 1859, vi. 223. — Indian.

471 VIGNAUD, H. Expéditions des Scandinaves en Amérique devant la critique. Un nouveau faux document. Extrait du Journal de la Société des Américanistes de Paris, nouvelle série, 1910, vii. 21–24. — Not Norse; Indian.

WARD, A. L. *See* no. 341.

472 WARDEN, D. B. Recherches sur les Antiquités des États-Unis de l'Amérique septentrionale. In Recueil de Voyages et de Mémoires, publié par la Société de Géographie, 1825, ii. 375, 438 f, 505. Illus., no. 12b. — Noncommittal.

473 WASHINGTON, G. Remarks on seeing drawing by James Winthrop in Museum of Harvard College in Oct., 1789. Cited by J. Lathrop in letter to J. Davis, Aug. 10, 1809. In Proc. Mass. Hist. Soc., 1869, x. 114. — Indian.

474 WATSON, P. B. Bibliography of the pre-Columbian discoveries of America. In Library Journal, 1881, vi. 227–244. Reprinted in R. B. Anderson's America not discovered by Columbus, 3rd ed., 1883. — Mention.

475 WEBB, T. H. Authority for a daguerreotype made in 1840. In Ms. letters to J. Ordronaux, May 9 and 27, 1854, owned by Old Colony Hist. Soc.

476–479 WEBB, T. H. Letters to Rafn. In Antiquitates Americanæ. [476] Sept. 22, 1830, pp. 356–361; [477] Nov. 30, 1834, pp. 361–371; [478] Sept. 14, 1835; pp. 397–399; [479] Oct. 31, 1835, pp. 400–404.

480 WEBB, T. H. Letters to Christopher Dunkin, 1834, requesting copy of Sewall drawing. In ms. Correspondence and Reports, R. I. Hist. Soc., ii. 22, 25.

481 WEBB, T. H. Ms. letter to J. R. Bartlett, Feb. 4, 1838. In Letter-Book of J. R. Bartlett, in John Carter Brown Library.

482 WEBB, T. H. Ms. letter to J. Ordronaux, May 9 and 27, 1854. Owned by Old Colony Hist. Soc. — Norse.

483 WEBB, T. H. Communication on Rafn. In Proc. Mass. Hist. Soc., 1865, viii. 175–201.

484 WEISE, A. J. Discoveries of America to the year 1525, 1884, p. 42. — Not Norse.

485 WESLAUFF, E. W., President R. S. N. A. Letter to R. I. Hist. Soc., May 30, 1838. In ms. Records, Annual Report, July 19, 1838; and in ms. Correspondence and Reports, iii. 23.

486 WEST, S. Collaborator in production of drawing of 1789.

487 WHIPPLE, J. Cited by T. H. Webb, in letter to J. R. Bartlett, Feb. 4, 1838. — No inscription; marks due to natural processes only.

488 WHITTLESEY, C. Rock Inscriptions in the United States. In Western Reserve Hist. Soc. Tracts, no. 42, March, 1878, p. 41. — Indian.

489 WILBUR, G. K. Colored Post Cards of Dighton Rock [1913], and Prospectus of Dighton Rock Park. — Norse.

490 WILDER, H. H. Petroglyph from Eastern Massachusetts. In Amer. Anthropologist, 1911, N. S., xiii. 65–67. — Indian.

491 WILHELMI, K. Island, Hvitramannaland, Grönland und Vinland oder der Normänner Leben auf Island und Grönland und dehren Fahrten nach Amerika schon über 500 Jahre vor Columbus, 1842, pp. 228–230. — Norse; follows Rafn.

492 WILLIAMS, H. S., editor. Historians History of the World, 1908, vol. xxii. pt. xxiii. bk. i. ch. i. p. 398. — Indian.

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